

EARTHCHILD

EARTHCHILD

"SOCIAL CHANGE" SERIES, edited by Victor Gioscia

This series of Gordon and Breach books is edited in tandem with the journal entitled *Social Change*. The series includes the following books

VARIETIES OF TEMPORAL EXPERIENCE (in four volumes) *by Victor Gioscia*

BETWEEN PARADIGMS The Mood and its Purpose *by Frank Gillette*

HOW BEHAVIOR MEANS *by Albert E. Scheflen*

FOOTHOLDS *by Philip Slater*

EARTHCHILD Glories of the Asphyxiated Spectrum *by Warren Brodey*

BIRTH AND DEATH AND CYBERNATION The Cybernetics of the Sacred *by Paul Ryan*

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TOWARD A RADICAL THERAPY Alternate Services for Personal and Social Change *by Ted Clark and Dennis T. Jaffe*

Other books in the series will be announced as they approach completion



EARTHCHILD

Glories of the Asphyxiated Spectrum

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AN INTERfACE BOOK

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To Abraham and Blanche Brodey

SERIES PREFACE

Man is an endangered species.

We think the separation of fact from value is the principal illusion responsible for the nearly terminal condition of species man on planet earth. This series is an attempt to share the facts and values of intelligent people who know valuable things that might help us find, live, and experience in ways that are species-enhancing, not species-destructive.

We think sharing information of this kind is as vital to humans as water is to fish.

We think we can depollute our information environment by introducing life-enhancing values into the changing currents of our lives.

We think the series should serve as a critical information resource for people who are seriously trying to enhance the life of species man.

We will publish hard science only when we think it will help us do that. We will publish opinion, analysis, exhortation, review, speculation, experiment, criticism, poetry and/or denunciations if we think it is of critical human benefit.

We are not naive. We don't think publishing a few truths will set us free. We are not optimists. We don't think the chances for human survival are very good. We are not elitists. We don't think that showers of wisdom from Olympus will illumine the simple man's darkened awareness.

We believe that human consciousness both guides and responds to human interaction, and that most contemporary interaction proceeds from and perpetuates assumptions about human life that are no longer valid. We believe that these assumptions *can* be changed if/when we want to.

Some of our fondest assumptions have already been unmasked by changes, unleashed by blind commitments to short run values. The most glaring example — we once believed technology made interaction "easier." Now we know that when our technologies violate ecological laws, we murder each other.

Some new forms of interaction (and some old ones) are currently being touted as *the* way. We don't think there is, or can be, any *one* way. How to sort out the promising ones from the blind alleys constitutes our principal aim.

We therefore deliberately adopt a post-disciplinary stance, believing that no one view, be it philosophical, scientific,

aesthetic, political, clinical, what have you, has *the* answer.

We intend to be a sort of whole earth idea catalogue for people who think that thinking about the human predicament *might* help us to live as one self-aware species, deliberately guiding its own evolution for the first time.

As editors, we will select and publish things *we* value as attempts to foster that kind of voluntary humanity.

Therefore, we invite anyone, whether clinical, social, behavioral scientist (or fan), student, Faculty (or interested person), young or old (or in the middle) to join us in the attempt to make a joyful human future not only possible but likely.

So — if you think "Science" is *the* way, we're not for you, and you probably won't like us. If you think radicals are mad (nee crazy, disturbed, insane, deviant, misguided etc.) we're not for you, and you'll probably loathe us. If you think the world will not be safe till sociologists are kings, we think *you're* mad. Ditto for politicians.

Every day, changes race into our world like mad flood waters, undermining all we hold sacred and sure.

Change is called for.

Yet, change is crisis.

What to do in such times. How to live. Feel. Know. Experience. That's what this series is about.

Victor Gioscia
Series Editor

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INTRODUCTION

She was a person I wanted to tell. I told her what I was thinking. She wrote it down. It was 1963. The text was substantially prepared.

In 1971 I showed Victor Gioscia the text. That's how it came to be published.

Judy Johnson played with the print and spaced it out to her liking. She is a weaver.

Andrew Poynor and I went to Ireland to find what would happen if we added pages of collage 1973 to text 1963. I was surprised.

In the time since I spoke, the words became experience.

I wonder if this experience has rooted itself in others.

Let me know.

Warren



**WHAT DO
YOU MEAN
BY THAT?**

CHAPTER ONE: THE SPREAD OF RAPID GROWTH: OUR NEW EXPLOSION

Fast. . . . Streak. . . . jet. . . . rocket. . . . man at the space control computer. . . . faster. A small change at high and rapidly growing speed soon left behind. . . . irrelevant obsolete. Must learn quickly. . . . body reaction time, each movement, sensation important. The twenty-fourth orbit! I am coming down. . . . how fast is Earth going now?

Spaceships flowing from one planet to another, projected on beams of light and using light for fuel. Not long ago a madman's dream.

A new simplicity is growing on the base of a new kind of world. Natural selection is no longer by chance. Man is being selected by his ability to discover. The days when learning was knowing what had been said before are gone. Each dawn opens a day that yesterday's experience of learning how to discover helps to organize. We are like children. . .

We are discovering at the speed of children again!

Outer space and under sea explorations, atomic energy and awareness of other species -- all make conventions learned from parents irrelevant. Accelerating speed leaves parents' conventions behind. Backward lines of contact with the past. . . . home base on Earth is in a new context. . . . what we remember is changed. . . . we are seeing so much. . . . our language is changing. . . .



OBSOLETE

FRANCE AND HER H-BOMB:
How dangerous are tests in the atmosphere?

Nearing Venus now. . . your time is going so slowly to us. . .
it is easier to talk to other spaceships in our fleet. . .

Turn on the approximator again or we'll lose touch altogether
. . . I'd hate to be just a piece of static. . . sure, we are way out
and changing faster. . . you have the approximator on now? Good. Turn
the knob to slow time.

As a boy, I learned to decode through different paces and rhythms;
it was necessary and I enjoyed learning to make time and set corrections.
My father was interested, and as we learned to approximate each other and
made contact, I taught him the kind of discovery every child knows. . .
the whole wide world of a child's system reaches only to the end of the
room. This makes adults even more huge. Growing older children rapidly
grow bigger and the grown-ups relatively grow smaller. Giants get tamed,
but. . . as the adults grow smaller they are less able to be trained by
their children. . .

EXERCISE: TURN TO THE EIGHT-YEARS-OLD CHANNEL.

. . . Why are parents so bossy with middle-sized children? They seem to
stop listening -- then how can you teach them?

If I only had an approximator then. . . or an analogue computer
that would render the size of a mouse or an ant or a germ or an infant
or toddler or adult all joined as size process and classified as such.
Each change in size of anything alters rhythm and time. With each growth
you are turned into something else. The height and background and memory
context of your viewpoint is different! Does an ant's feeler take in the



size of a tree? Does a child know the table tops? No. Lift him or let him climb up. Children know more about feet than faces. Adults think childhood is what they remember. The length of the past changes the present. Children and adults are not quite two species.

A kitten is not a lesser cat, nor is the adult a larger child, nor is the fawn a younger deer, yet between the pairs there is a similar relation. A puppy and a fawn and a kitten and a child suckling their respective breasts also have a very similar problem. Search out similarities and differences in their process.

Do not dismiss a phenomenon with its name.

A child is a grown-up child for his age. At each nodal accelerating point of change he quickens in his newness. This sequence of change does not exist in the context of the child's own perceptive system. It is introduced by the observer. The child may only experience wonder.

Before our more rapid acceleration of information change -- the new renaissance -- the changing context of present did not change the past so completely. Past memories swim in the streaming of present.

Now we do accept that an unchanging past is an obsolescent concept useful only for systems at slowly increasing rates of change.

As we spin faster, parents can then no longer relate to their children in terms of their own childhood. The jet experience of an old man is strictly obsolescent for teaching the light-transducing travel of the young. Older children now teach younger ones, using an age gradient



translating system.

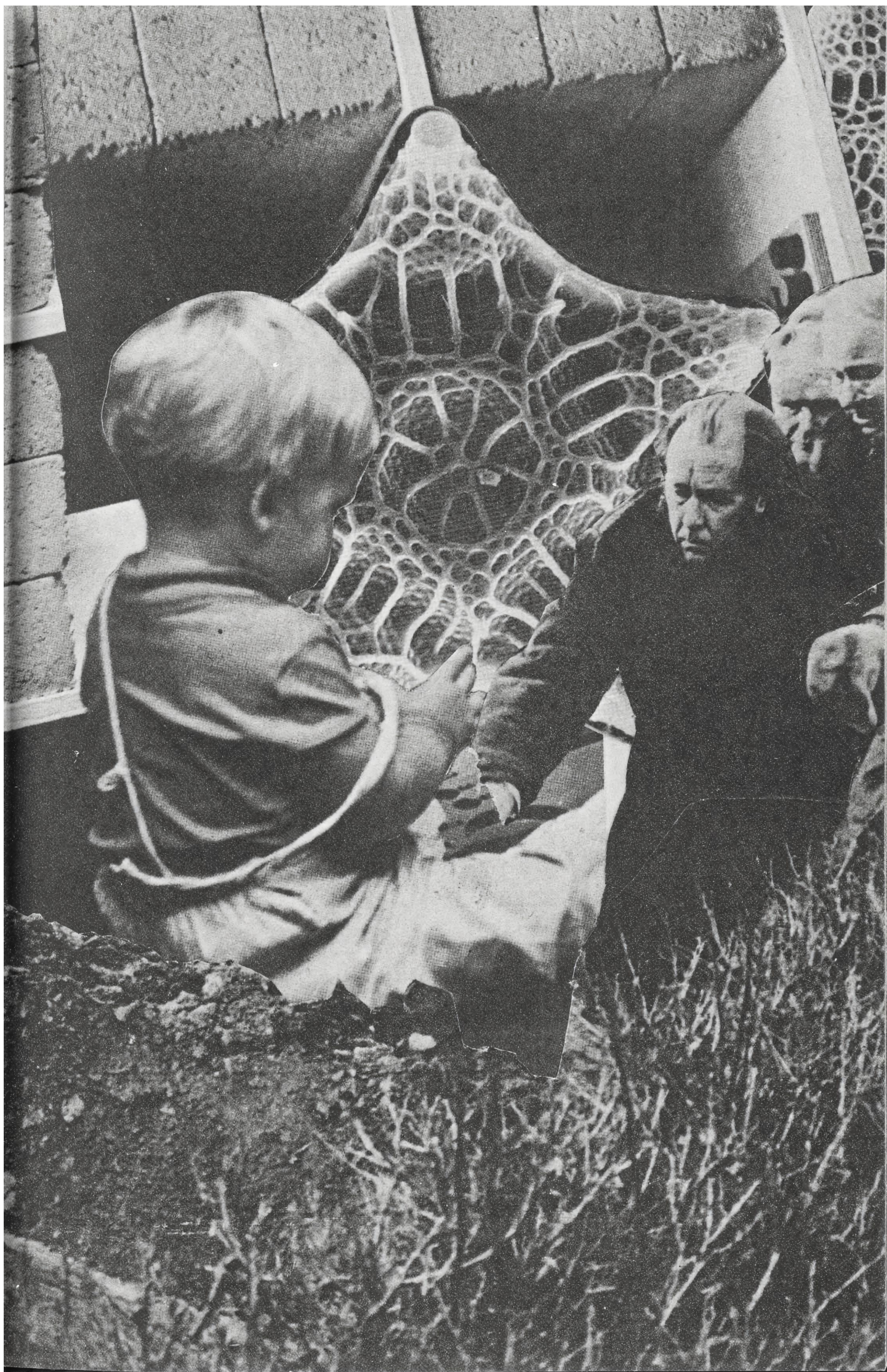
The rapid change possible with the new speed of growth means valuing real contact with other systems. Now we are aware that one cannot make contact across huge chasms of basic structural difference without intermediate language. The Earthling on Mars at first tried to communicate with Earth language systems. Then he learned to observe any smallest juncture between Earth and Martian systems, and to use this to grow a broader bridgehead. As acceleration grew, the contact child to adult was reduced in spite of more continuous reporting to each other which began in the early 20th century. Inter-generational contact is now recognized as important to maintaining the regulated constancy of change in our coding systems (traditions).

There was once a little boy who cried sobbing tears with a curled lip about not being able to go with his father. He experienced so much, but only his curled lip and his crying knew for him about what he was feeling. This was his way of communicating, of sending a telegram, and it didn't matter what was said to him back because by this time he was crying so hard that he couldn't listen. And the father hugged him and left.

The little boy knew that there was nothing to be done but to play with his cars and watch with wonderment the small bee that stood by the crack in the wall, dead.

When his father came back he tried to tell about how the small bee was so sad that it cried till it died and didn't move anymore.

But death was an idea that the child hadn't been taught, so he



simply took his father and said, "Look, Daddy, bee!" and all his thoughts about bees, all the detailed observing for a whole afternoon, had no way of expressing itself across the word barrier anymore than a dog's bark in the context of dogs meant simply: there is a stranger. The nuance could not be decoded until we learned to go beyond the ritual of words. Then the child could elaborate the detail of the bee. Once the father knew the problem he asked the child to draw what he had seen and to describe the drawing. The father was surprised but still could understand very little.

And later the child looked at the clouds and asked his father why they moved across the sky;

And when it rained he asked why it rained;

And when he saw a house being built he asked why they were building it;

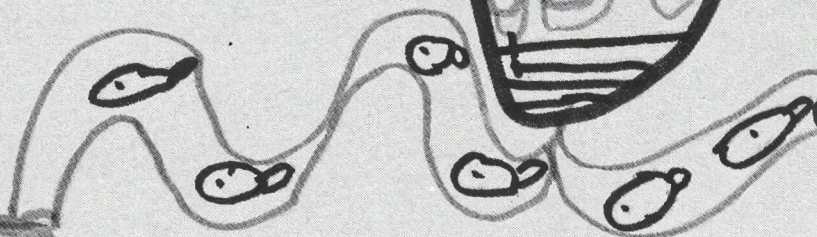
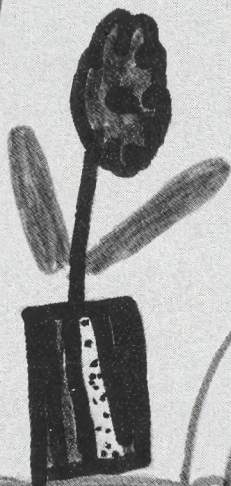
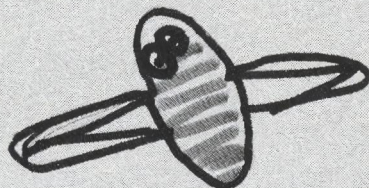
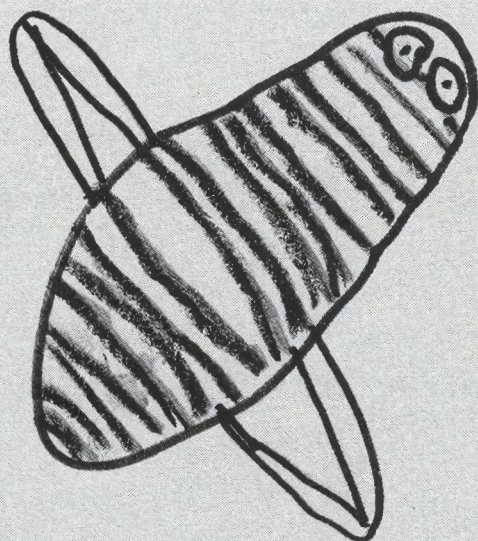
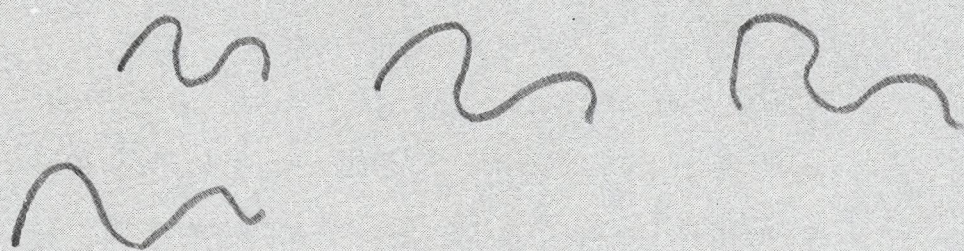
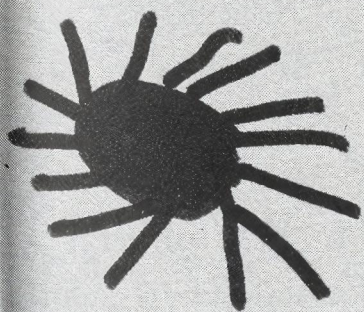
and a car accident wondered why itself.

And everything happened that was full of the word "Why" and each question stood for all the kinds of questions the child was unable to talk about. But the father, instead of answering with a made-up answer as fictitious as a simple answer, returned the question to him,

"What do you think?"

The child answered,

"The cloud is running a race with another cloud, and the sky is wet



and spilling over."

The father did not know what to say, but he did know that talking about molecules was more impossible, the child's own theories must be translated.

The child was involved with action theories that were near to his own experience, his experience - his eating, his breathing, his wonder set - the one bridgehead then for information flow. His present rate of time is much faster. His discovering is freshened faster than father's.

Each dawn makes history of the day gone by,

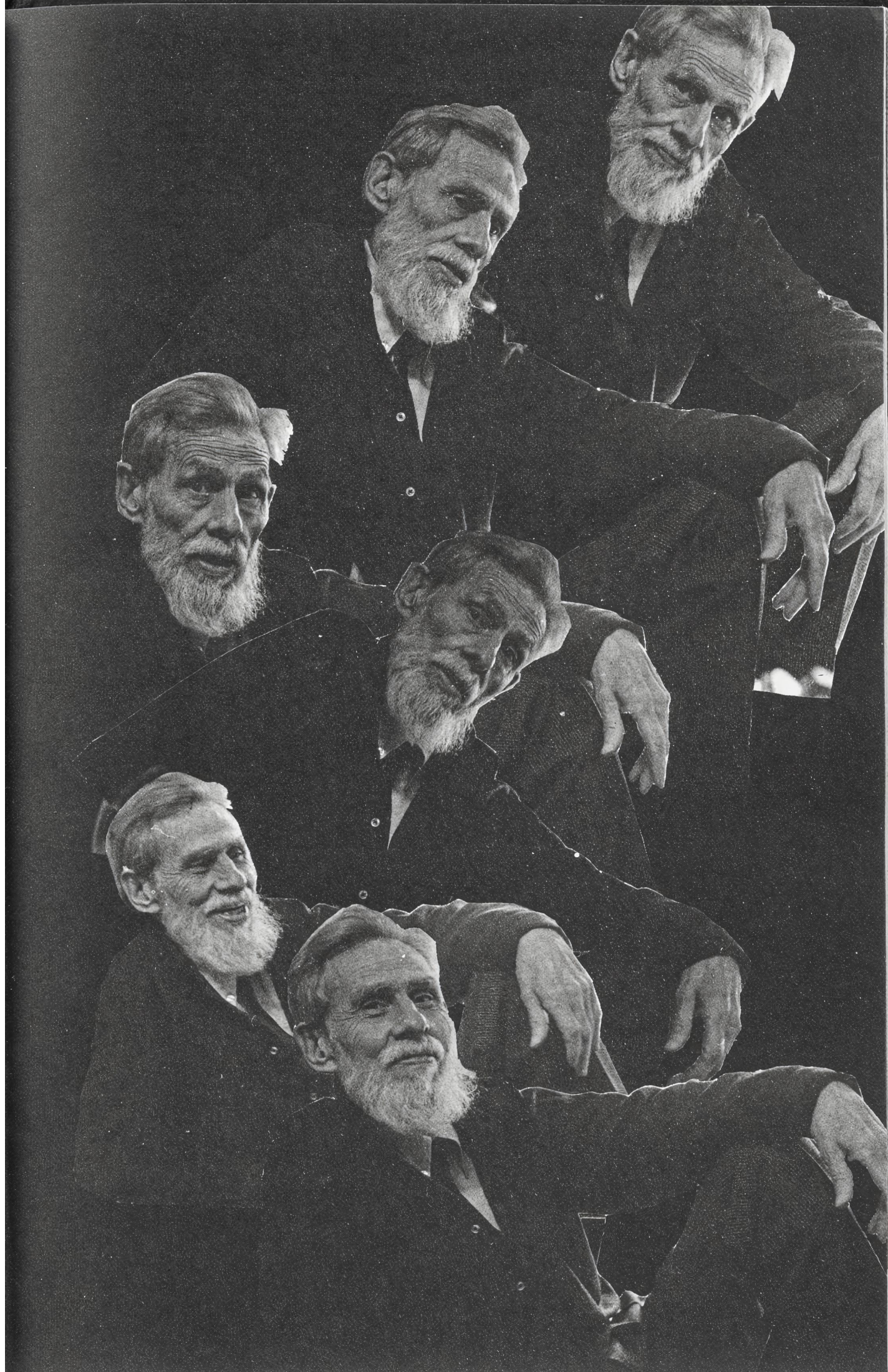
And each day gone by is seen in the light of the new dawn.

The communication problem for the man beyond the dawn is vital.

The astronaut outside earth's atmosphere goes faster than light. Watching his Earth video viewer he beholds an experience which he once had, and aware that he cannot return to the past he assigns to this history the values and structures of the present day movement of his Venus seeking capsule. Techniques of encoding and decoding between different systems have been enriched by the time knowledge he reports.

Accepting a child's exploding information is our new resource.
Each new experience builds two more.

There is the sand. . . there is the truck. . . there is the hand on the shovel. . . and more on the other side. . . go back and get more . . . the castle is heightened. . . his time span is short.



A child's changing time process is as difficult for his mother to language as the space ship designer's capacity to think in light years. A child's growth experience, once acknowledged, is a source of learning how to discover.

Each movement chooses a new chain of choices.

Knowing what happens in context to oneself, and in context with another, and in the context of the many systems one can use to describe the same event, begins to simplify as translation back and forth are not taken as if the word were the event. . . the child is not limited in the relations he can see by words. The child in the sand building castles did not speak words.

We can talk to children in their language and they will teach us to go beyond our limits as we learn to give them the information their curiosity needs!

An exchange in terms of the child of dump truck, like child of the bee is far from repetitive. It just seems that way when we cannot translate. We are searching to go beyond the sandbox and the wet word castle unmatched to the time of the sun's drying of the sand.

Watch a child's eyes dart about. Can you visualize what he is seeing? The answer is "No"! And "No!" remains until one begins to gain some knowledge of the child's own system.

We are afraid if we take away conceptual hangers . . . our skin will fall off. Whether the old clothes are kept on is irrelevant. What is needed for the new education is respect for living flesh.



CHAPTER TWO: WE DESTROY OUR CAPACITY TO CONTROL GROWTH WHEN IN ORDER
TO NAME THINGS WE SEPARATE THEM FROM THE TIME IN WHICH THEY EXIST

They told me when I was little that it was good to crawl, but that walking was better for going far. Crawling is necessary for going under beds. "Best" depends on where one wants to go -- far, or under beds.

And so it is with our language. It is useful for exchanging those experiences unsharable in a shrug, or a sniff, or in a crawl-under-the-bed-with-me-gesture.

"Don't look at me that way!". The glance-language is not scientific.

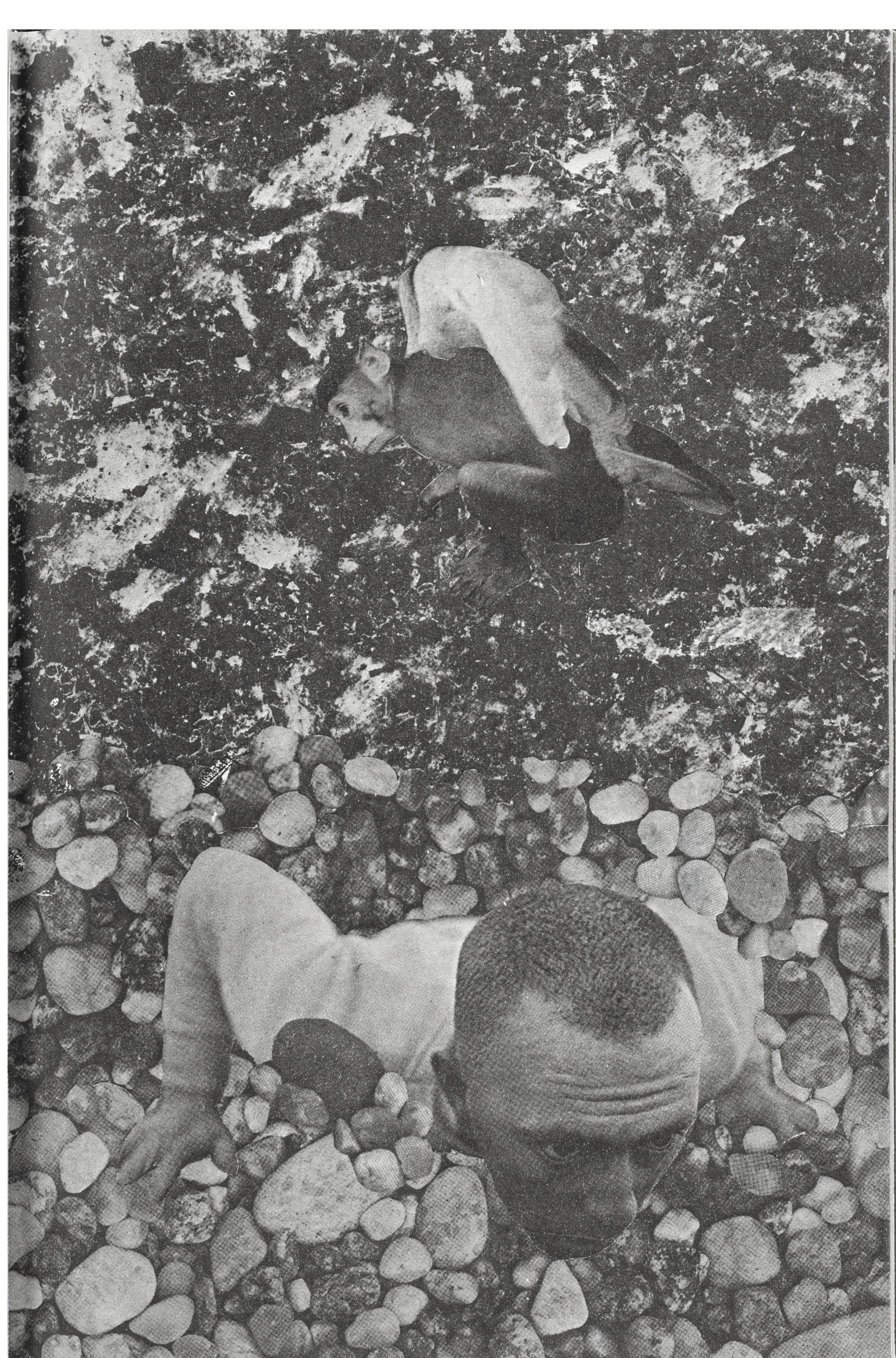
"Stand up!"

"Speak!"

Prove you are growing up. Watch him, the scientist, with rigor, walk straight and upstanding! At last he can walk like the old order! He can establish truth: it is better than crawling.

Upright!

Distinguish our kind of posture. No forepaws. Hands up. Chant together: "WE NEVER WERE ANIMALS!"



You can do more, hands free. You can spend more time at it! But -- go farther? Not under beds. I have tried to walk under beds. Crawling is better -- necessary. Rediscover it!

A poet's description can be as rich as a child's immediate fresh impact. Think of a child's or a foreigner's naive, ungrammatical accuracy. He is crawling through our language with precision unknown to those who are used to its implicit errors.

The language of the new realm uncovers aspects of living that everyone experiences as obvious -- to be spoken by a nod.

The nod-language takes too much away from our awareness. Yes, there are living aspects of everyday situations not encompassed by our walking-language. Growth, for example, has no words.

The informal language -- a glance full of knowing -- must be put into writing!

Our present written language can not encompass the information exchanged in a handshake or glance.

How do you measure the flow of a kiss?

Bench marks won't do!

Even in the "movies" a kiss is nothing but an eye-cheating flicker of stills.



I s t h e r e n o l a n g u a g e o f m o v e m e n t ?

Of course there is! The artists know it. It is written in their poetry (in whatever form that may take).

Everyone can crawl but who has the courage. There is no need to learn how!

It is this kind of change that's taking place.

Can poetry be fed into computers? Yes! But crudely.

Count the tension in a bending bough. That poem joins cycles found in living nature.

Last night there was sleet. The bamboo sprig bowed, and I, hoping to save it from breaking, shook off heavy ice. It snapped as I shook it. The sound of the snap marked an end-state -- a sudden shift: from standing, bowed, live bamboo sprig to a broken bamboo sprig. The stem beyond the break has entered new cycle. The sound -- "crack" -- marks a nodal point. Only the point of critical change from system to system is adequately described: it broke.

The Haiku poem gives fourteen nodal points to work from before translation. The literal translation of it is:

"old pond:

frog jump in

water-sound."

ON

CYL

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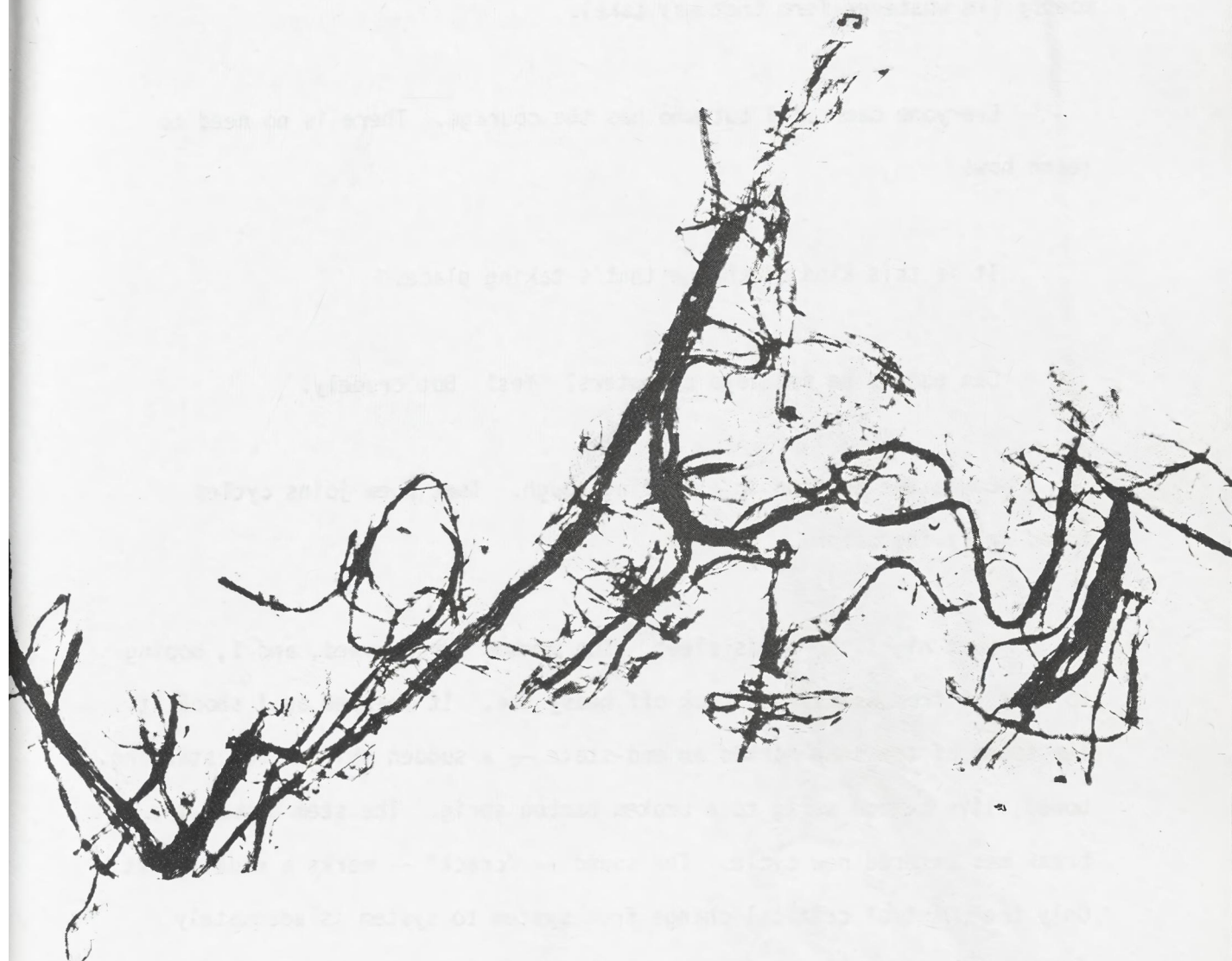
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This is the height of information-packaging.

The blind children with whom I work teach me that the critical-point concept is important. To name the nodal points between cycles of their experience requires a different Haiku. We take so much for granted. It's natural! Being perceptually different, they do not naturally accept our conventions.

"When shall I teach the child
to answer 'Yes' to 'Is it
raining?'"

"They smell the wetness in the classroom. Is it raining then,
or when fog drizzle runs down the windows?"

"Ask them."

"Is it raining?" teacher asks.

"No", little John replies.

Now they are going home through the door -- the open door into the rain. John's blind threshold to outside is sniffing sudden fresh damp air. He breathes in and smells more rain. . . he hears louder canopy rain.

"Is it raining now?" John wants a ruling.

"Should I say it is raining yet?"

"Of course it is raining," the teacher responds.



"No! -- not in my face," says the child,
distressed, revealing his own convention."

"I am not wet; it is not raining here."

The child walks beyond the entrance canopy. It is face-raining now. He smiles.

This child is unskilled at recognizing the sighted conventions usual to the naming process. "It is raining" means to him not seeing rain or hearing it but rain-in-the-face! We understand that this is not a foolish child who does not know when it is raining; he has simply chosen his own critical point.

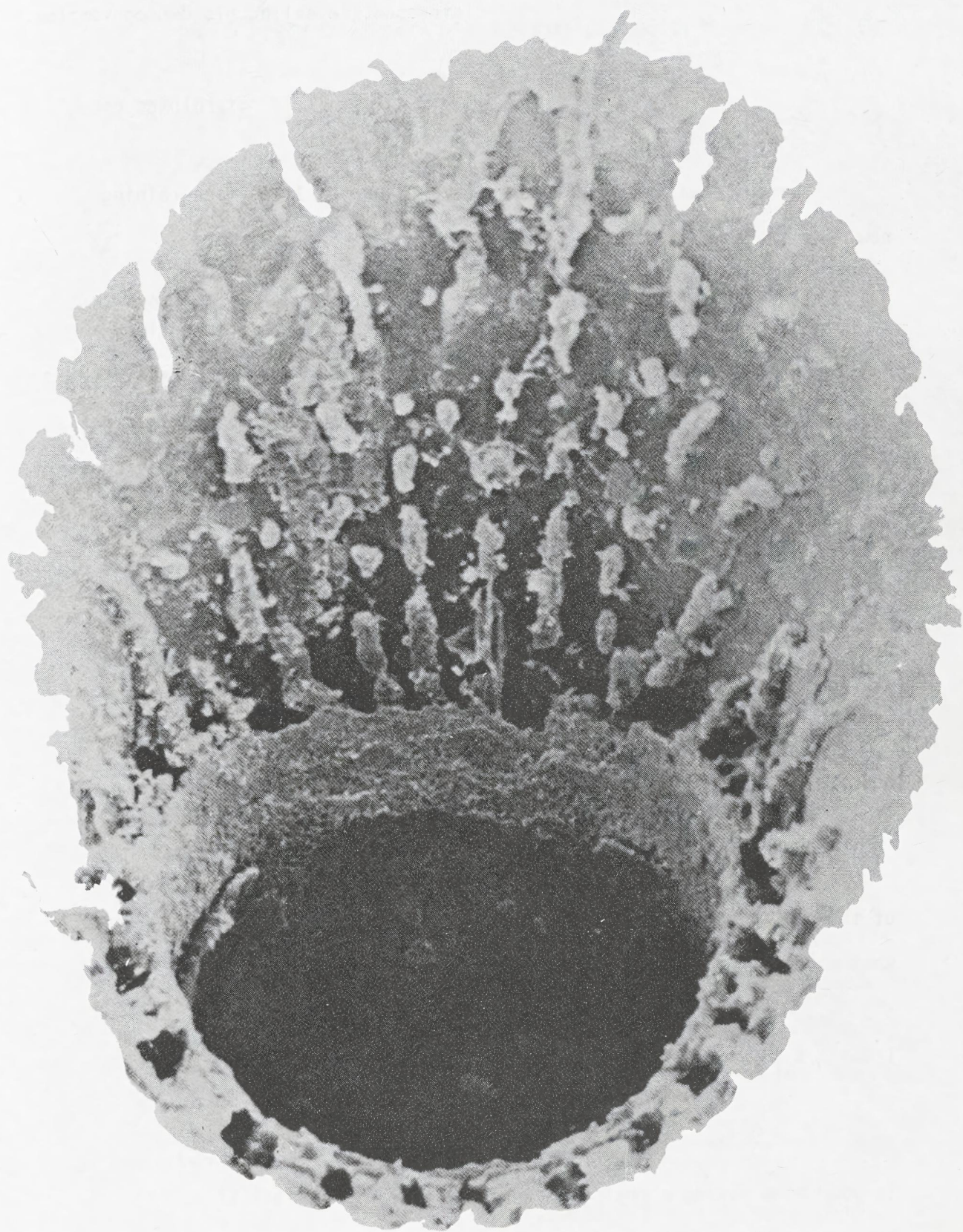
Smell rain, hear rain, rain increasing from humidity to wetness, precipitation to heavy rain, rain under canopy to rain on umbrella, on clothes, on skin, wet skin, wind skin, rain, wind, shrill, skin, rain, blown, wet, drip, slog, cold, touch, rain -- all this we describe from nodal or critical words.

Do we have a formal language to name walking-into-rain in terms of the continuum? Yes! You will see the Haiku poem is very explicit. What more is needed?

I am trying to catch a crawling --
an idea that is not yet worded.

Is your mind making a moving picture out of flashing stills?

Your perception of the coming storm is more than intuition.

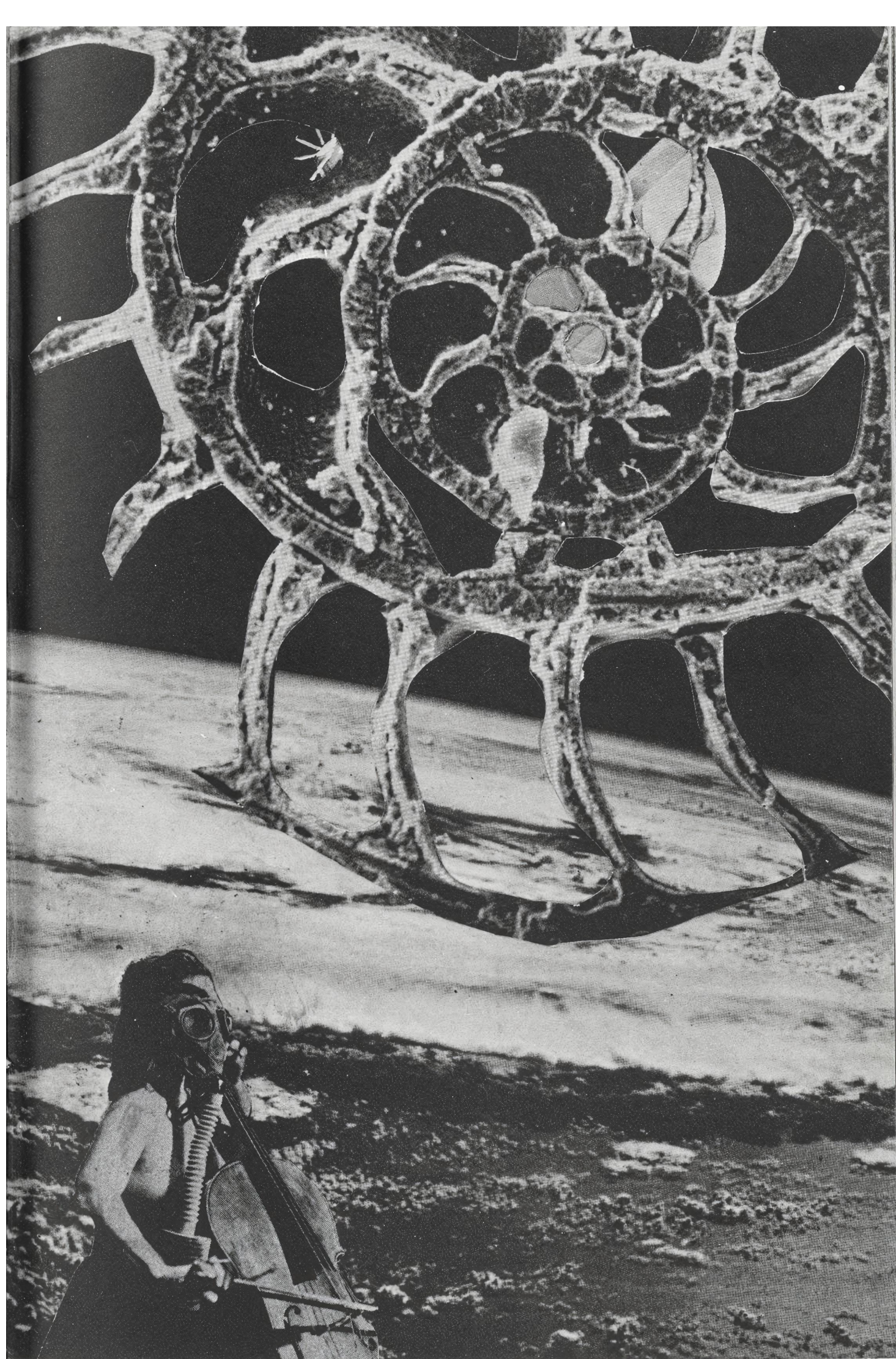


Must the twinge in auntie's toe be our only ordinary record of the shift in rate of change in barometric pressure? Barometers do not record the weather's human language. But if the weather changes faster than usual -- don't go near the boss! Strong emotions grow with rapid change in rate of change of weather. We do not teach our children what is most useful to them -- the effect of weather on our species. This important information is left to that informal reservoir of knowledge -- intuition. That reservoir needs to discharge old contents; there is a new intuition on the way.

The barometer dial predicts the weather; it does not specify the time factors of its change. A revolving drum barometer does write the pressure flow of one day. Imagine an instrument that would accurately tell how fast the change was taking place. The shifts in rate of growing change give the information that is closest to experience. Humans are attuned to detect change in live and growing process. It is change we best detect but it is the still dead states we name. What if we named the kinds of change and held implicit what is usefully considered stopped?

Formal language crudely brings in time. It abstracts the juice and leaves the symbolic end-states to signify the process. Stormy, cloudy, fair; beginning, middle, end; good and evil; drawn and quartered between four mules; bathed and perfumed -- all these are conceived of as settled. The movement between the end points described is implicit, to be dubbed in without words.

It is the continuity of the wave between critical points that our usual language is least able to encompass.



We evade the lack of words defining movement by waving our arms when we are talking to each other. Such informal and often unintentional language is used for the measurement of living process.

Where is the precise language for describing movement: the rhythm of Jim and Jack fighting, or of two countries whirling as in a dance?

Is predicting what will happen at the end enough?

Not now!

We must learn to control a process as it happens.

Perhaps this is most notably problematic to grown-ups who wish to teach their children.

This is a house;

This is a church;

A house is a kind of church;

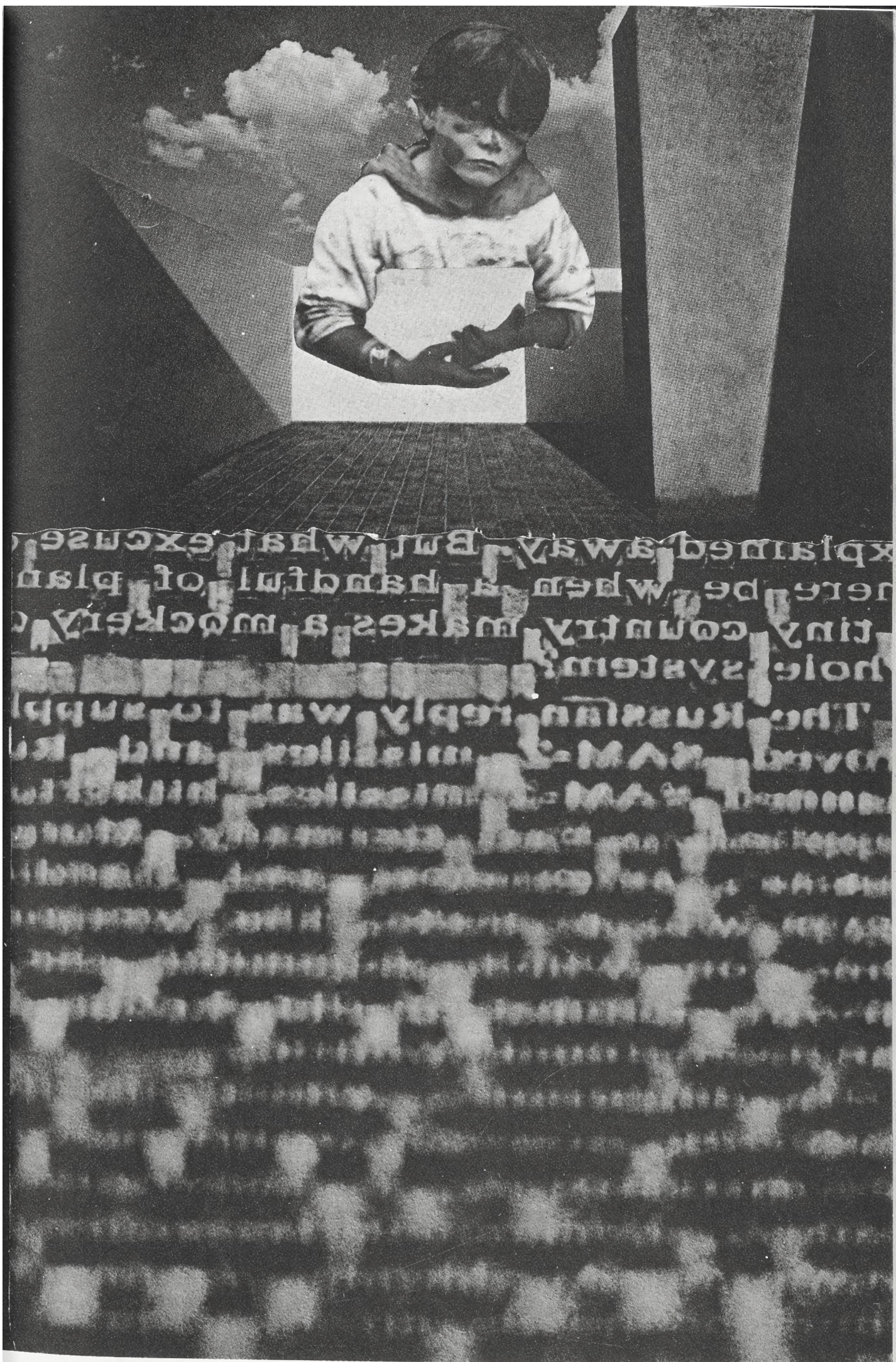
A church is a kind of house.

Son, this is called an egg;

this is a chicken.

But what of words for describing the chicken to egg moving relationship?

It seems so difficult to say to a child that the chicken grows from an egg, and the egg from a chicken. Can you put these statements



into a circle that moves accurately through time? What happens in the barnyard is simple enough, but our language does not encourage specificity when it approaches time as it exists.

The chicken-egg paradox focuses a fundamental weakness of our present language system.

This weakness is costly.

Does war grow from economic conditions, or do economic conditions grow from war? Is the day of declaration a beginning, or is defeat an end? Just think of the last war to end all wars.

Our present language makes barnyard sense seem complicated. The living story of the children or the egg phases of a single-species-flow-through-time should not be complex. We need a new fundamental structure, new simplicity to teach our children.

How does the international negotiator write of his paradox solving skill to another generation? Is his intuition to be lost?

We need a science that writes down and studies what is now intuitive data.

But some teach that learning cannot be scientific unless most of it can be held still -- Dead!

Recite: Our ancestors were the goodies;
The Indians were scalpers!



Be goodies, children,
It's all so simple.

Who teaches the problem of what is relevant? It is not included in the T.V. simplicity.

Recite: Good versus evil!
Kill the bad guys.
Atomic bang.

Cowboys and Indians are historical. Anyone can understand them -- and which cereal is best. Relativity is too difficult to understand. Begin with simple things! Name end states or beginnings. The old rules of simplicity are used for propaganda.

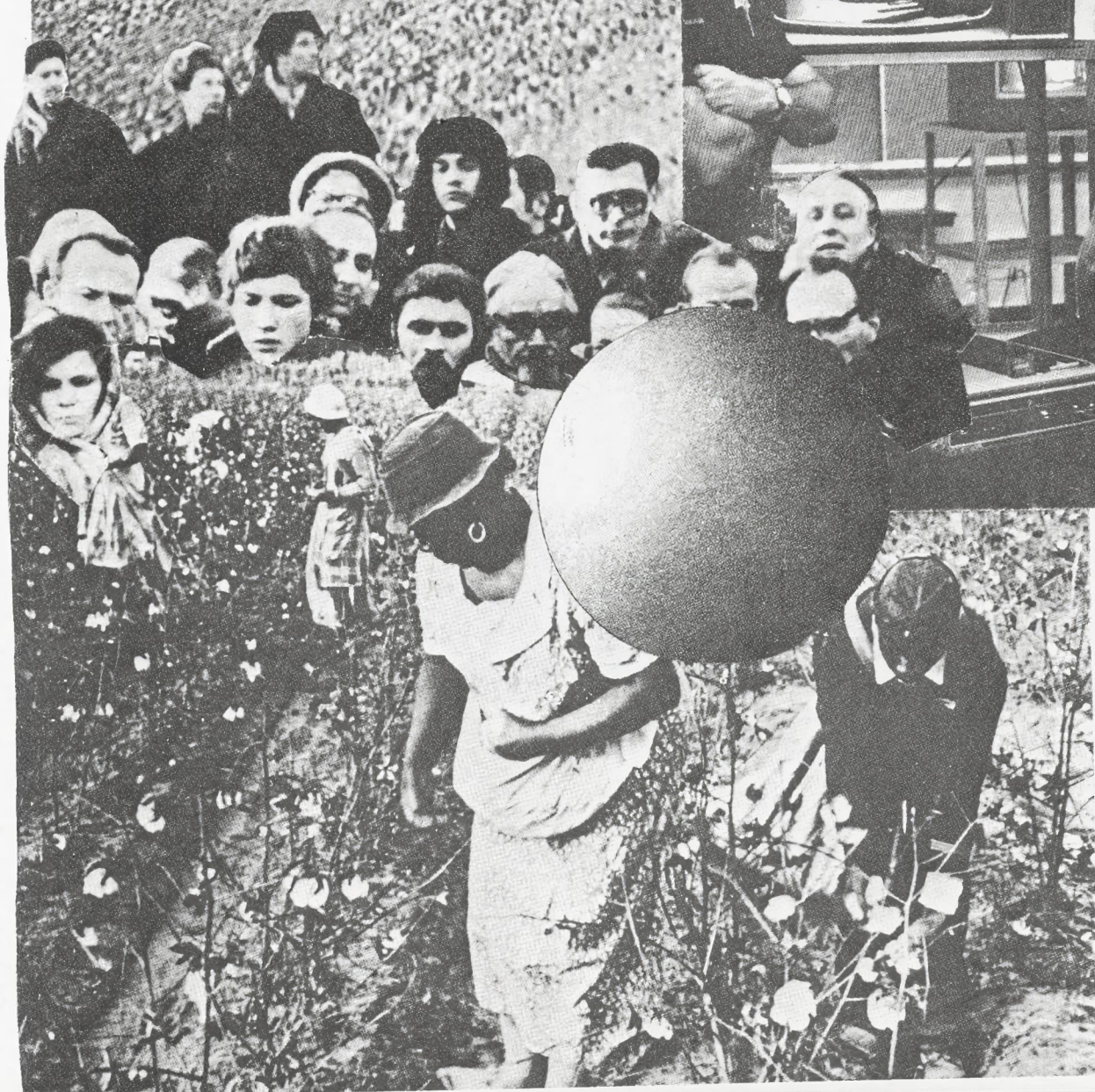
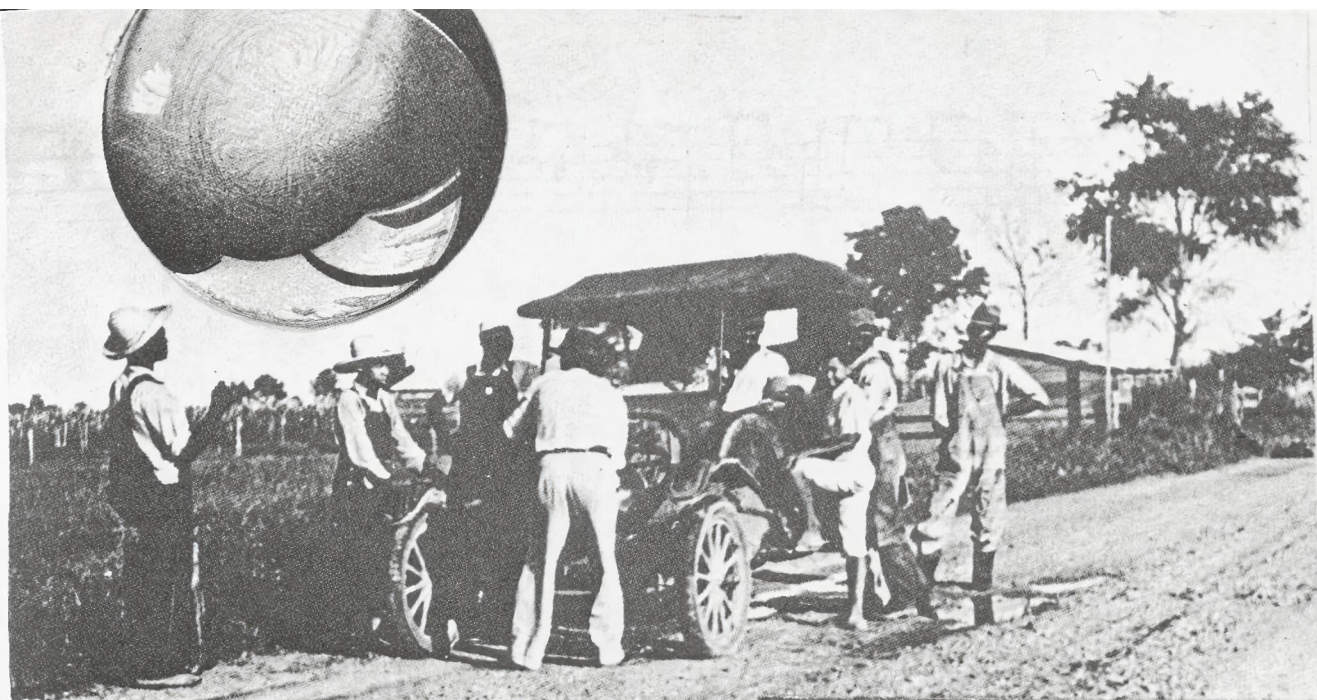
"This is an egg; this is a chicken" is simple only because it is these end states we have chosen, by convention, by definition, to use for basic namings.

"This is an apple, children. Crayon it red."

A timeless apple is no apple. Be accurate -- throw the core in the trash. Is this semantics? Advertisers don't think so. You buy an apple dyed redder so it will be like 'a picture of itself'. The apple picture changes slowly from generation to generation; it never rots; it is a timeless symbol.

A is for apple.

J is for simple Justice.



Why begin by teaching a simplicity that does not exist? Justice as a living process is taught by example, but where is the language to describe its growth? Each explicit language leaves a different area to be covered implicitly by intuition.

Had we chosen to name growth process as our explicit unit, then we'd have new problems.

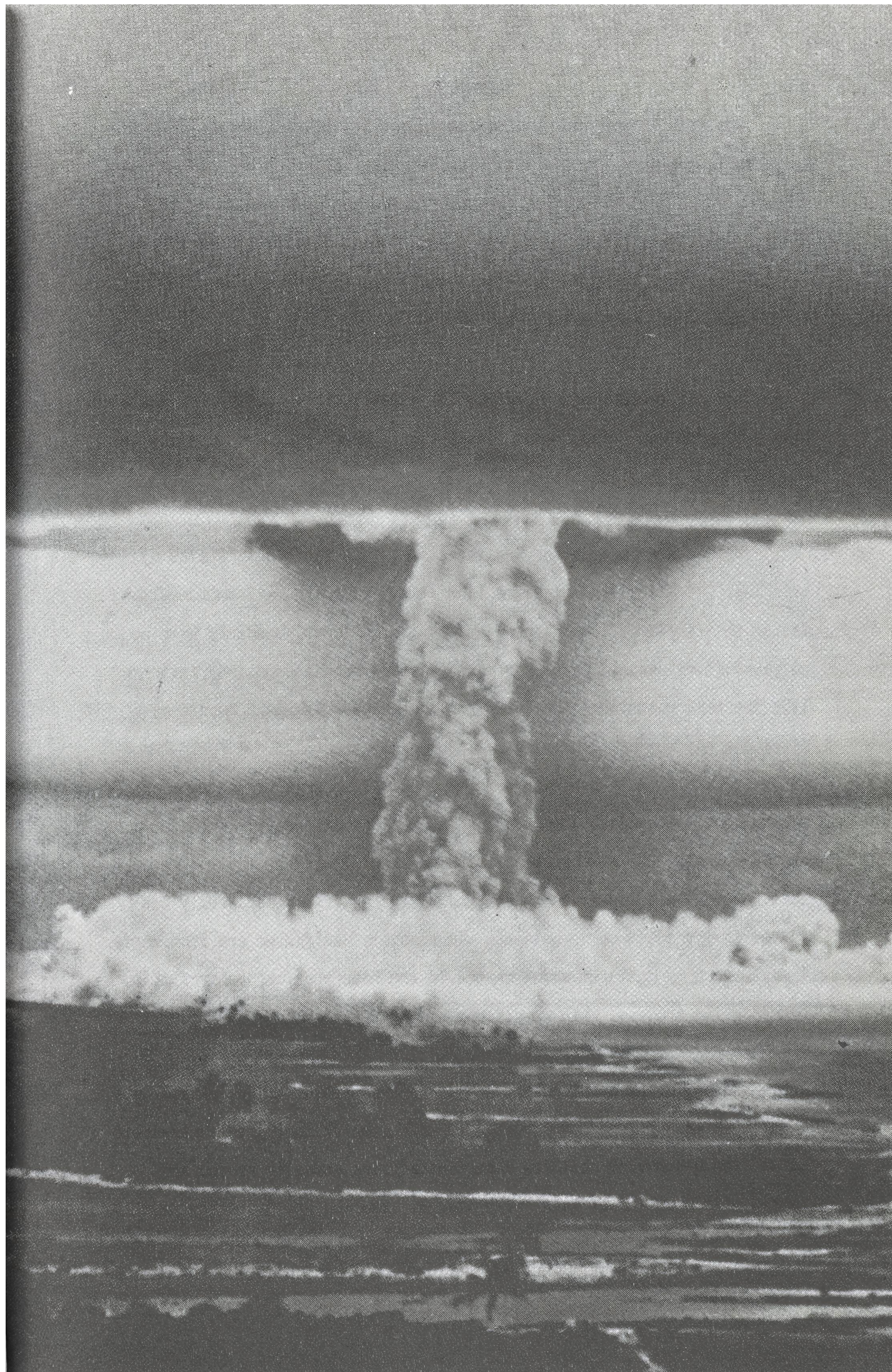
New books have begun to show the new progressions. Spot-stills illustrating stopped morals are no longer popular in our present day books. Already the retrospective race to the stillness of a snap photo-finish. . . the word "End". . . his final reward. . . the end of the end . . . seems grotesquely unnatural.

But can we catch up to our atomic progress with knowledge of our ways? The behavioral sciences are impeded by ancient beliefs hidden as conventions. What is considered natural is not easily unlearned!

A mushroom cloud implies new nature. The old Hiroshima recontexted is something new.

Now one bomb can prove that end states do exist. . . for us as did the Garden of Eden and other inventions necessary to the beginning-end phasing of our present language system. But you won't be here to experience having ended; for you there will be no proof. The idea of relevance is changing. The value of nonsense is changing in terms of its relevance.

Is it possible to change man's language?



The coin of the new renaissance is not to remove the coin of the old. It is not to replace -- it is to enhance. Building a language descriptive of relational process does not remove the uselessness of end-point description, but fills in the space-time continuity denied by the gap between a static beginning and an end. Growth does not stop or finish; it may accelerate more quickly or less.

The new concept introduced by the atomic bomb -- controlled explosion -- can become a new common sense. It is the basic simplicity of the new realm.

My dog lies beside me. He is asleep. His sleepiness awaits my stirring. He stirs as I pause to look at his stirring -- I am tuned to listen to stirring. The house quiets as the children, suddenly hearing no sound of my pen, leave presents at my study door and go away again to live the next room into a children's place. They disappear beyond my sight but not beyond my hearing, my pen, or my breathing. I feel them in my air as if their presence were my soul. I am writing to them. A distant quiet announces absence, but pen motions are not their motions, and I grow sad, for this writing soaks in the intimacy of their sweet buttings-in. How lovely to be annoyed by interruptions so sweetly conceived as the intimacy no coldness can remove! How far we are from war! I must teach my children about change in the hope they can control this accelerating process, what we old ones call explosion.

Beyond my study door the two-year-old scribbles as he imitates his concept of me. I long for language to make simpler poetry to communicate to all the unschooled children important affairs uneasily stored and shared within us -- but tauntingly hidden. You who are listening to this

The aim of the new movement is not to remove the child from the world, but to help him to find his place in it. It is to help him to find his place in the world, not to remove him from it. The aim of the new movement is not to remove the child from the world, but to help him to find his place in it. It is to help him to find his place in the world, not to remove him from it.

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My dog lies beside me. He is asleep. His sleepiness waits my stirring. He stirs as I pause to look at his stirring -- I am turned to listen to stirring. The house opens as the children, suddenly hearing no sound of my pen, leave presents at my study door and go away again to live the next hour into a child's place. They disappear beyond my sight but not beyond my hearing. My pen, or my breathing, I feel them and a glow see, the rare writing books in the intimacy of their sweet buttings in. How lovely to be moved by interest, one so sweetly con-ceived as the intimacy no coldness can remove. How far we are from what I must teach my children about change as the hope they can control this accelerating process, what we old ones call education.

Behind my study door the two-year-old arrives as he waits his chance of me. I long for language to make another party to conversation. In all the unbroken children's world the words are stored and ready, waiting us -- but language is hidden. You who are listening to this

rhythm may know my beat is one of sadness. With each naming of a boundary,
I lost the moving friend who had stopped still to be present -- as a cipher.

I was a school child lined and counted, numbered among lines of
branded children, boundaried, graphed and I.Q. charted.

Here! Here! Here! We answered the roll though the teacher could
see us. Or could she?

Is there in your mind a growing picture of my wish to tell the
children what we have each experienced but have no language for the naming?
My anguish need not be obscured as if each man's private thoughts were
his alone. It is an anguish shared -- the word has become flat.

And the small child returns to my door.

"Why can't I come in?"

"I'm writing."

"Here's a school book to write in."

He shoves it under the door to give it to me. Oh, how much I love to
teach them, but so much is too basic to be able to say because I don't
know how! I write about the language of process, hoping to help in its
progression as it continues to be growing. And I will leave my writing
now to share my children's laughing, and playing -- and we will teach
each other wordlessly.

Real experience must not be omitted.



CHAPTER THREE: TEACHING CHILDREN TO MAKE TIME A DENOMINATION

This morning, in the bathtub where today's chores began, I asked my two-year-old-blond-hatched-and-very-intelligent-boy -- No, he asked me first as he pointed to my stomach --

"Is that your tummy?"

"Yes," I replied and pointed out his.

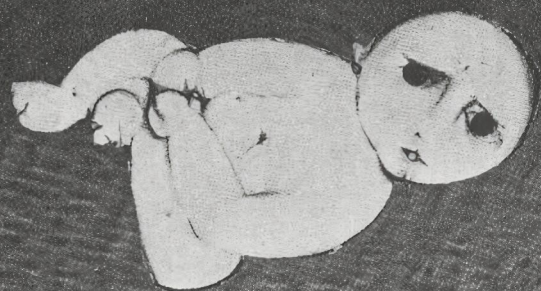
As I did I noted it heave with breathings, I drew in a big glob of air and said,

"What do you call that?"

He looked at me blankly.

"Breathing," I replied.

Then, as he played I wondered, why do we teach our children parts of the body as if they were objects? Why teach arm, finger, leg, long before we teach breathing, standing, running, jumping, talking, fighting? Why are namings of objects given precedence over namings of actions? Is this the child's demand? Who has defined the fundamental precepts of the children's questions? Is his "What is that" or "Why" set by our convention?



Do children really mean "How does it rain," instead of "Why?" We teach them the language of "how" when they are older. It is our teaching that constructs the form of their earliest questions. They have no alternative to "why?" If they use the word differently how will we know they have changed? They can change our words faster if we expect them to change.

The way a question is structured determines its answer.

If we do not allow children to redesign the way questions can be asked, they can't ask us about change. If we don't respect their reality, we can't respect their new formed questions. We will correct them to the old form. If the meanings of our child's question is set by our natural convention how is he to teach us what is natural to his experience?

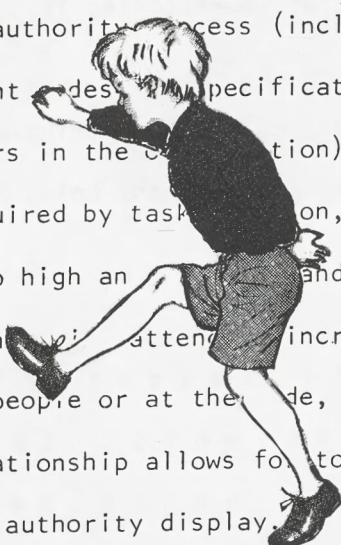
How much of our formal training of children is a rationalization of our grammar? "Who-done-what-to-which" — this is still the essence of our sentence structure, of our grammar. This is the way we divide our world. The question "how" is becoming more popular. "How" implies process going on over time. This is considered more complex than the answers to the question "Why?" which requires simply an ultimate cause. This old conventional simplicity, the final simple cause is becoming irrelevant.

I can only shift little by little from convention as I slowly cross the circle. You cannot communicate new language until you translate it so that it can be understood in the old framework, but if it can be understood as a part of the old framework, it is not fundamentally new.

The learning explosion proceeds as transition unclear as to its

a
b
c

D The personality type that gravitates to and is hired by the bank is a person with a strong, internalized self-controlling authority process, or super-ego. Thus the type of person who tends to be perpetuated in the bank is, from a personality point of view, ideally suited for a weak authority process. It permits him to express his relatively strong internalized authority process. Therefore, the authority process (including all those behavioral activities and concomitant responsibilities and specifications where people are coordinating and directing others in the organization) should not be increased. Supervisors, unless required by task assignment, should not be given private spaces, since it implies too high an authority and status for his role and this would increase role dissonance and attention increase in tension. Supervisors should be behind their people or at the side, but not in a direct



PRIMER I orientation. This relationship allows for too intense eye contact and sponsors a dominance contest or authority display.

All boys love balls.

E The "weak" authority process, employees believe, is to be explained by the fact that the organization trusts them and feels they are responsible individuals. Therefore, secure areas should be plainly marked so as to be recognized as security areas. Increased surveillance with video or other equipment in the work area should be avoided unless there are other overriding reasons for their installations. All guards on the floor in the bank should be clearly visible to staff.

It is a nice big doll.

ROAD TO READING

F In most clerical operations, people move around freely, are able to break at will and have their coffee at their desks. Many even have their own coffee pots. This little fringe benefit is very important in maintaining the pleasurable and friendly atmosphere of the bank. It allows a freedom of movement, implying individual responsibility for each job. These people are not locked into routine jobs which would create feelings of frustration, resentment and boredom. They are free to move, creating informal groups allowing for a sense of freedom and peace. This is especially important since it mollifies the guard effect of the security system that might otherwise develop. Experts now place great emphasis on creating



an office All girls love dolls. personal freedom as well as self-actualization within the organization. After all, a person spends on half

the time in the organizational environment and conditions should

beginning and end -- if you know what I mean! Children can be trained to the new language in such a way that they receive the knowledge stored in the old system, while restoring it in their own way.

Nouns and adjectives, the thing words, have been placed first in the common learning process, and being placed first act as organizers for verbs and adverbs.

W h a t i s t a u g h t f i r s t s e t s a s t r u c -
t u r e w i t h i n w h i c h t h e n e x t p i e c e o f
l e a r n i n g i s o r g a n i z e d .

Let us first teach the child with the Video Tape Recorder (V.T.R.). Picture books do not come first because picture books are limited to showing timeless pictures.

New classroom procedure: Turn on the individual television books which allow the teacher to present "See Sally Run" on the V.T.R.

Teacher: "Listen to running making sounds of Sally,
children. . . hear breathing harder as
she runs faster. . . those movements we
call Sally. . . hear the sounds of Spot
"huh,huh", . . . that is called panting
. . . Spot is running faster towards
Sally. . . listen to his padding rhythm
change as he runs faster. . . the side-
walk bumps against his feet and that's
the sound called 'padding'. . . They



are rapidly slowing now. Sally's arms are stretching out. Children, have you felt the air from a wagging tail? That's the dog's way of speaking."

EXERCISE: IMAGINE FOR YOURSELF THE POSSIBILITIES AS YET UNCOVERED FOR CLOSED CIRCUIT TELEVISION AND A TAPE RECORDER.

VTR is used now to help student teachers evaluate their capacity to follow the program. Using new media to show a teacher how to teach the old style better is putting a stuffed horse on a horseless carriage so as not to frighten those less resisting to change, then removing the engine, and selling the vehicle as -- advanced. By using our modern tools artfully in teaching we allow children to accept their potentials; they will teach us new techniques of using this equipment.

"Running is performed by children." is the caption under the moving picture sequence of children running. Now running by grown-ups. Now running is faster. . . faster. . . faster. . . The teacher bangs the dish in time with the rhythmic running feet (on the TV screen) faster. . . faster. . . faster. . .

"Children, what do you call that?"

"Acceleration, teacher?" says Johnny.

"Is it accelerating fast or slowly?" teacher asks the class.

by Emanuel Jarogene

I am in the Clinton Program. It is a special and new program. We pick our own courses and every afternoon we go out. One afternoon course I have is a film workshop. We learn about video cameras. First they taught us how to use these cameras and then we started making our own shows and films. I've had the course for a half a year now and I enjoy it a lot. I will keep taking this course as long as they have it. It's just like a taperecorder. You tape it; then look at it. I have this course every week on Tuesdays. I've learned a lot in these six months and I hope to learn more. Later on in life it might help me to get a good job or make up shows or even good movies

that'll be on television. I can say I'm learning a lot from this

course cause I am. I even get a lot of fun out of this. So far the film workshop class has made a lot of shows and films and in-

terviews with people outside. We have a lot of fun in this course. After we make our movies or shows we get to look at them on television (closed-circuit).

"If there's not enough equipment to go around, especially portables, it's hard to keep interest high. You can usually send out a crew of three: a Porta-Pak (cameraman, sound man, and someone to hold the record deck) and give each someone something to do. That we mean that there has to be some piece of equipment each one to hold so they fit part of something.

Inside, the group usually breaks down into kids who want to work the equipment, the kids who want to perform, and the kids who want to be in the background. Some kids are tired about being taped and you shouldn't force them on camera. We found that even the kids who wanted to be taped most often became very nervous in watching themselves in playback.

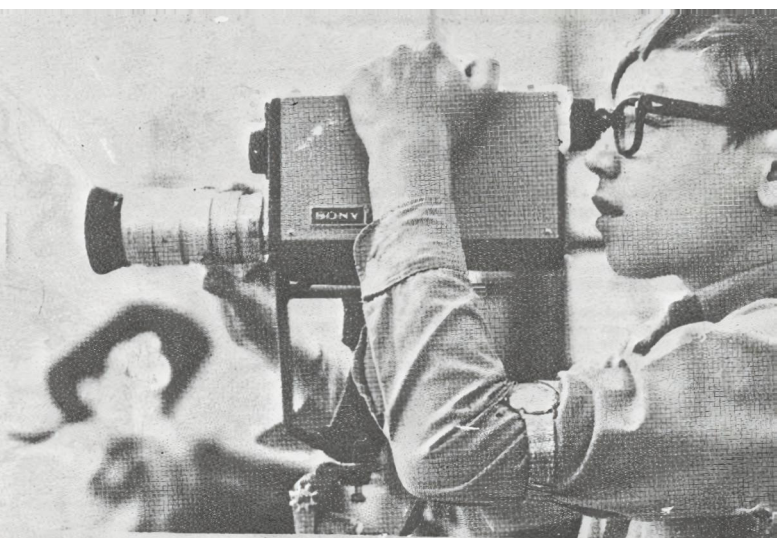
"Don't build up a hardware mystique. The first day one kid asked us how much a Porta-Pak costs (\$1,495) and then wanted to know 'why are you letting us kids use it' because he thought it was so expensive. In that situation, just plunk it in the kid's hands and let him start shooting. You've got to find a balance between having a kid respect equipment and not being awed by its cost.

Also try and minimize the difficulty of using the hardware mainly because it's very easy to use. Instead of demanding that the kids circle around the equipment and get checked out on it as if it were an airplane, something, let them at it right away. They usually want to know how it works to solve a problem, not in anticipation of one. And that's a learning mode.

"Finally, don't lay a broadcast TV trip on them. Most of what you and they see on TV is behavior artificially conditioned by money and studio bias. While our kids often imitate TV (e.g. they did a news show they quickly broke through in context with their own spontaneity).

Moreover, the Porta-Pak can go anywhere so copying studio behavior is superfluous. If you don't have portable equipment you can still work with kids, of course, but in that mode becomes more of a control system for an adult authority figure. Everyone keeps telling us about video equipment locked in school closets because teachers are afraid to use it.

Especially avoid scripts. Script writing, TV is a visual or oral medium. What's the point of forcing assumed behavior when kids can reinforce their own spontaneous modes? The only pre-written stuff we used was done by the kids themselves and they soon got out of that



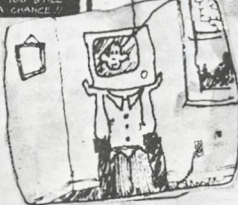
Last fall we got a call from Phil Yenawine in the high school department of the Metropolitan Museum of Art. He was helping fund a filmmaking class and heard we were loaning out video equipment. (We were. But we aren't now because we kept getting ripped off). Could he use videotape to teach film?

Of course we said no, film and video are two different things, why didn't he just underwrite a tape course? Which he very graciously did. So for the past five months about a dozen junior high school kids have been coming to our loft one afternoon a week to learn and play with video. The piece here by Emanuel Jarogene tells what went on after we asked him to write it).

We talk a lot about how unique video is and here one of our



VIDEO IS AS POWERFUL AS LSD



film. While the kids really loved doing video, it's obvious we weren't as effective as we'd hoped. So all we can do is lay out what went right and wrong and pass it on. There's just not too much information around about kids and video.

There were usually four of us to help the kids. Two teachers and two of us from Raindance. Except for yelling at them not to step on the equipment now and then, and telling them how to work it, we let them do what they wanted.

The first few weeks the kids went out on the streets and shot interviews. Then when the weather turned cold they stayed inside and acted out scripts that were written or sketched out, using props they'd bought. All of that was on their own initiative. Some of the resulting tape is very strong in its own right and

some of your tape. See Distribution section).

A few of the kids, like Emanuel, really got into making demands on the equipment's capabilities. They even asked to come on the weekends, when school was out, to keep trying out ideas. (We were only able to let them do that once).

While they also learned editing, our major failure was that none of them wanted to, or did, put together a finished piece at the end of the course. Of course, that may be our bias. Just as our being disappointed by our inability to get the kids to feedback verbally on their experience is probably more a reflection on our way of doing video instead of theirs.

What we can pass on from our experience is this:



"Compared to what, teacher?" Sally answers.

The running of two children flashes on to the screen, for Sally is giving the usual answer for her age.

"Is the running accelerating fast or slower?"

"One running is accelerating the child faster or slower than the other, which do you wish to use as the point of reference, teacher?" says Henry.

"Henry, you are right, the situation is seen differently by the faster accelerating child, by the other child and the camera's eye observing both."

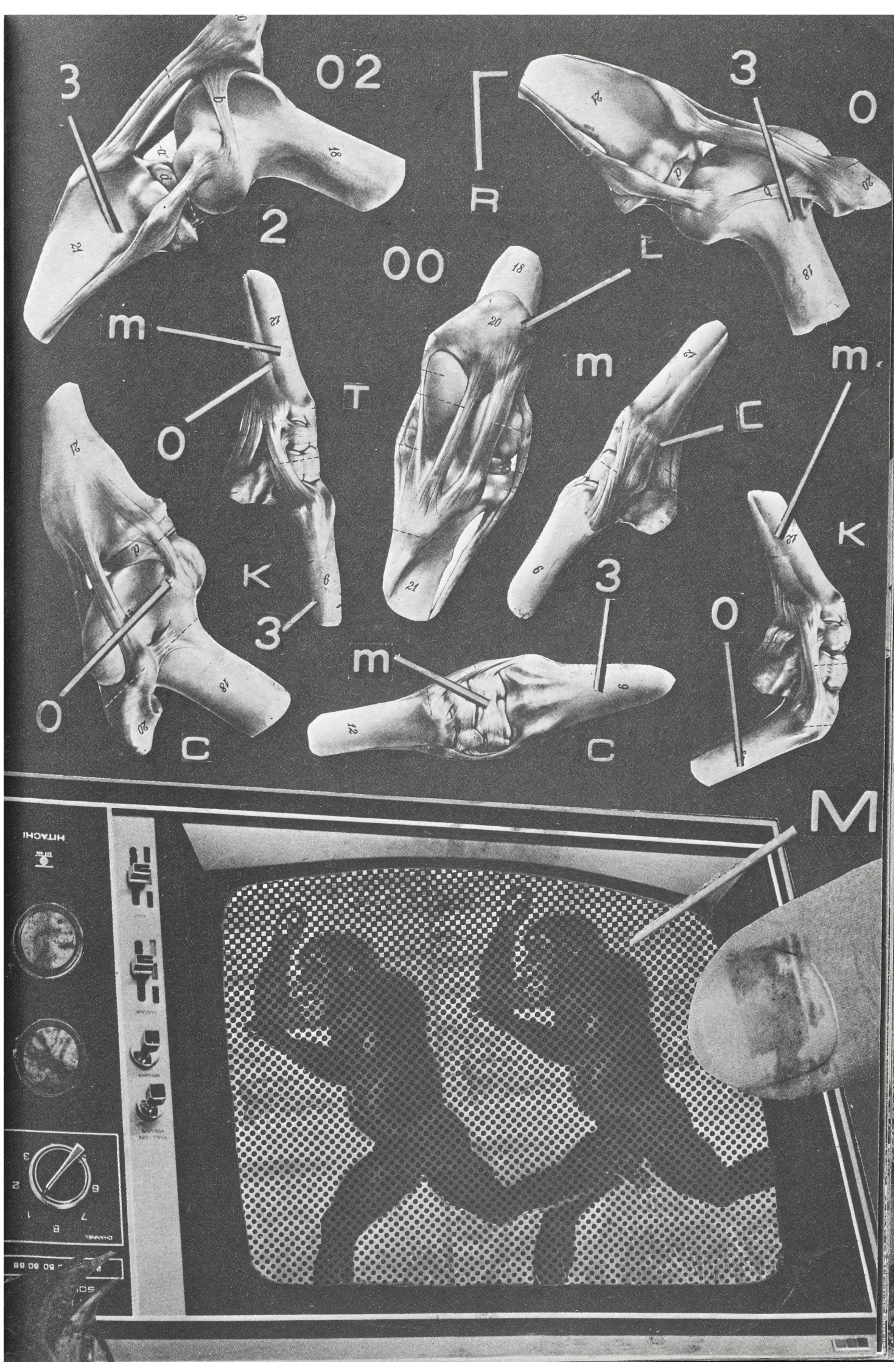
"What will happen, children, if the faster acceleration does not become impeded by negative feedback? Mary, you answer that."

Mary smiles knowingly at the teacher's abstraction.

"The system always changes," she says.

"The running will be altered. A limit will be reached.

Too much tireding will slow running, and the runner will feel her side hurting. Her breathing is self-



limiting too."

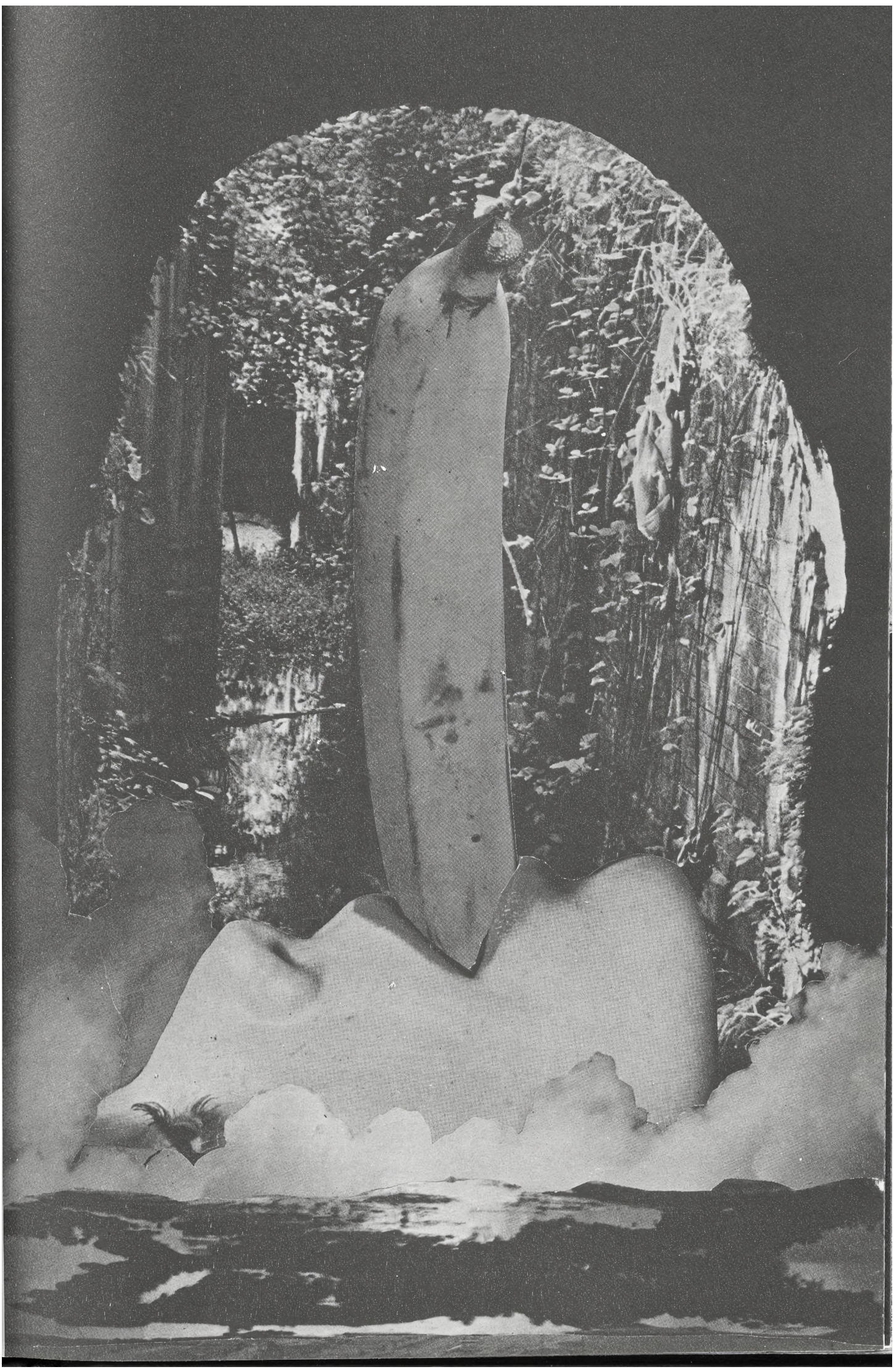
This is simple to these children. They may not be so familiar with some of the divisions into objects, causes or subjects -- the nodal points that we know best. Just as the new math is unfamiliar and complex to a child's parents, so the old mathematics is complex to a child of the new systems. To a child of the movement classroom above, the exact division between a hand and arm as things might leave the child perplexed, or make him laugh.

The new system of simplicity has been introduced early and not as unlearning.

"Now Lynn, where are you eating
(everyone knows about eating,
it's such a common experience),
what do you call the entrance
to the food processing?"

"What do you mean Miss Mogo by entrance?"

"Oh Lynn, you should know that.
Remember we talked of how the
slow movement, such as when
mother calls you home when
you are playing, can suddenly
get faster. . . accelerate. . .
move faster. . . mother says
ice cream. . . speed builds up



... call it 'starting'. ... the shift into a new rhythm. Entrance is the special location defined by the change. We talked of 'start' and 'stop' as words for sudden alteration of the rate of acceleration, when the person had become used to the previous rate of change so that it no longer sent messages.

I know 'start', 'stop', and 'used to' are difficult.

Lynn, your chest is being heaved by breathing. Do you think of that if I don't point it out?

No.

You are 'used to' it. Well, what if you stopped breathing. ...

You know I can't stop breathing. I'd be meat. That would change the system, teacher, and how could I start if I hadn't stopped?

Lynn, you are avoiding the question. Exactness must be statistical (An aphorism of this age). You know that it is true that stop and start are arbitrary names but important since they represent points of statistical alteration in rate, or direction of flow, or the change process systems. Alive to dead has to do with oxygenation. You



can stop breathing in the pressure breathers -- those machines that rest the chest muscles. We tried so we could understand the effect of being without the breath clock.

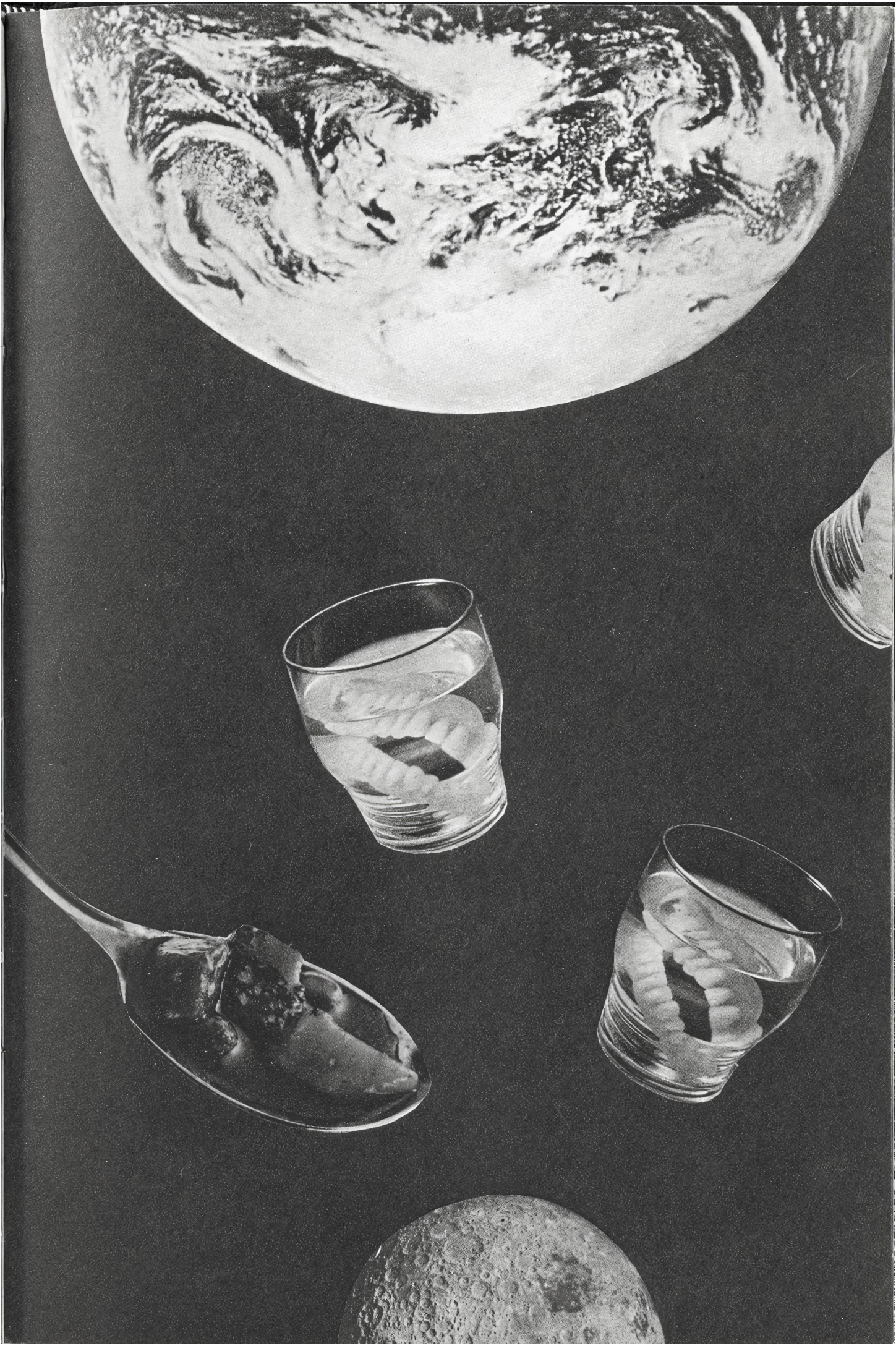
Oh, you're talking of changing the rhythm of the breath clock.

Lynn, why don't we just say that mouth is where digestion process begins, and I know it began at the sight of food, but mouth is where the rhythmic field of changes include changes in the food. There it begins to be broken down -- chewed up -- to be ready to be cycled through digestion. And Lynn, how do you know the digestion process actively involves changing the food?

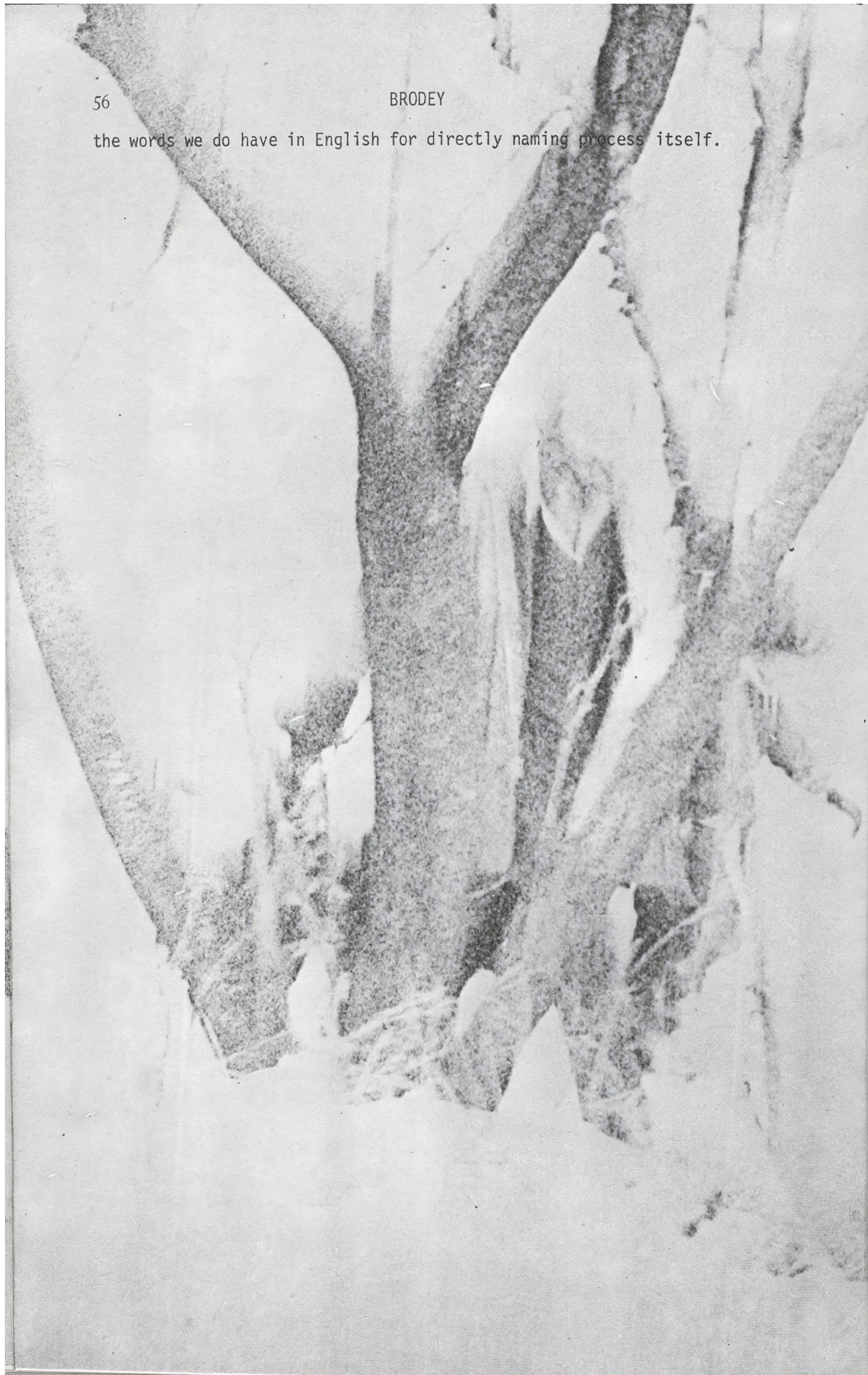
I know that -- I can taste the change and feel it swallowing, Lynn replies.

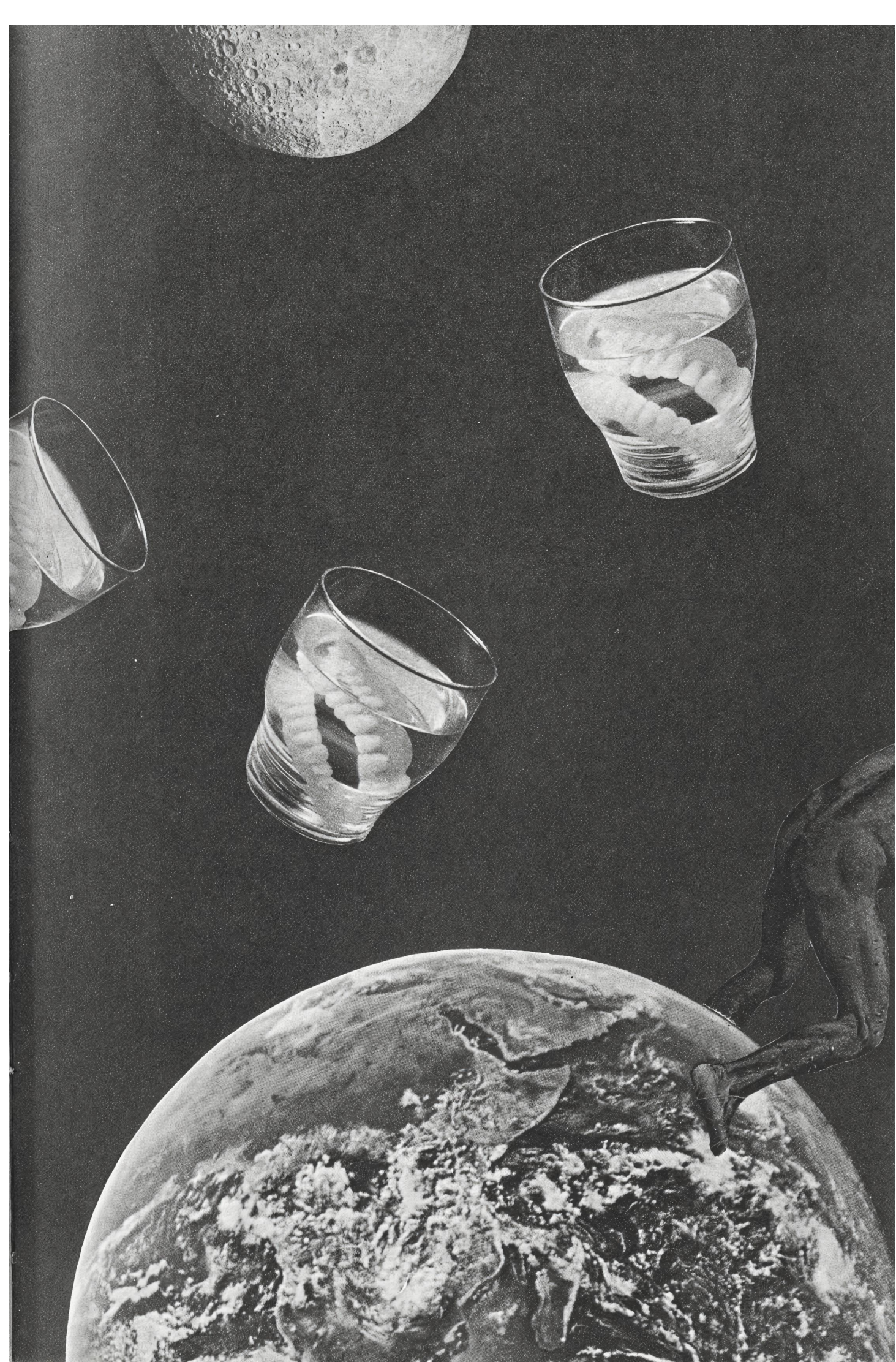
This is a primitive account of verbs coming first, it is awkward, but the idea is there and will develop. Newness is at first awkward, it is not natural or automatic. Real newness is at first absurd. Teaching writing before teaching letters and reading, once absurd, is now well accepted. My children come home from kindergarten carrying long sentences they have copied but cannot read.

From the beginning we teach children to break living process into choppy pieces. This is our way of denominating. These pieces we call objects. They are considered simple-complete. We rarely regard as simple



the words we do have in English for directly naming process itself.





CHAPTER FOUR: DENOMINATING RHYTHM SO WE CAN TEACH TIMING TO OUR CHILDREN

Saying what is wrong is not enough.

Knowing what to do is not doing it.

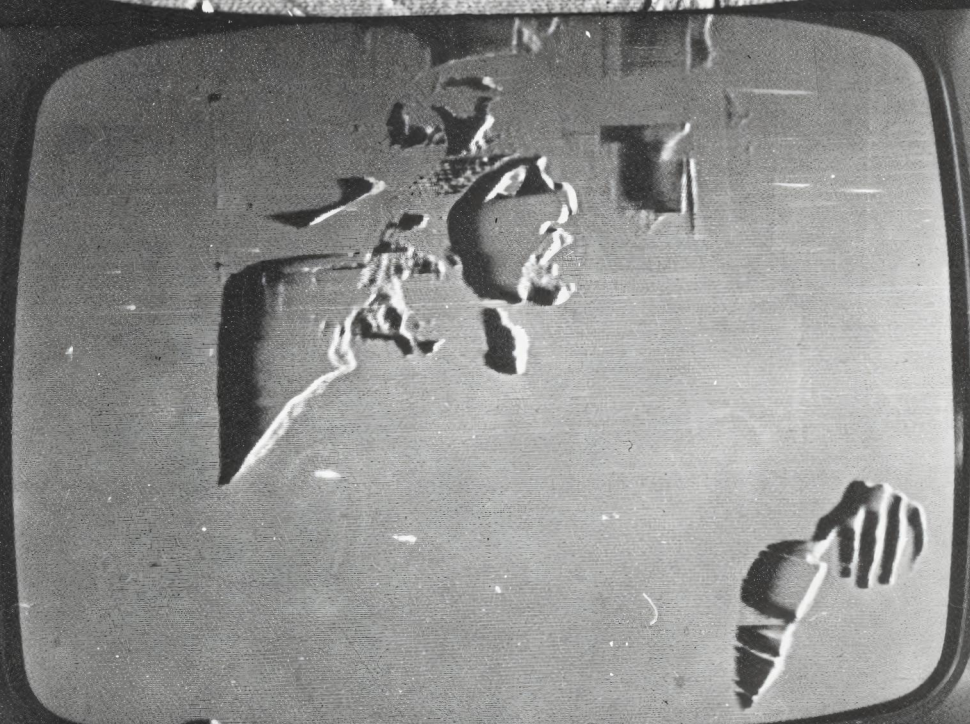
We widen the gap if we do not unlearn 'naturals' no longer relevant to experience.

Onward!

Timing can no longer be denied.

Bravo! If only bluster could make us aware of what we cannot realize to exist until it exists for us. After breaking through what we must unlearn, it is so simple.

EXERCISE: TIME ALL THE SENSATIONS YOU EXPERIENCE AT THIS MOMENT! CATCH YOUR RHYTHMS, TIME WHERE YOU ARE AND WHAT IS HAPPENING. DON'T JUST TIME IT WITH A CLOCK -- TIME IT WITH THE CRITICAL RHYTHMS YOU EXPERIENCE. TIME YOURSELF IN PASSION'S RHYTHM FOR CONTRAST. WATCH, I HAVE DISPLAYED ON THE SCREEN BEFORE YOU AND THROUGH YOUR HEADSETS, THE SOUNDS OF YOUR BREATHING, YOUR HEART, THE GRADENTS OF YOUR BLOOD. . . D. . . D PRESSURE CHANGES. LISTEN AND SEE THE BODY SENSATIONS YOU ARE SO USED TO YOU NO LONGER APPRECIATE THEIR INFORMATION, EXCEPT AS BASE SCANNING PATTERNS. LOCATE A PATTERN. CHOOSE ANY SIMPLICITY TO STAND AS THE BASE. CHOOSE FOR EXAMPLE THE RHYTHM OF YOUR BREATHING TO TIME THE WORLD OF YOUR PERCEPTIONS. YOU HAVE



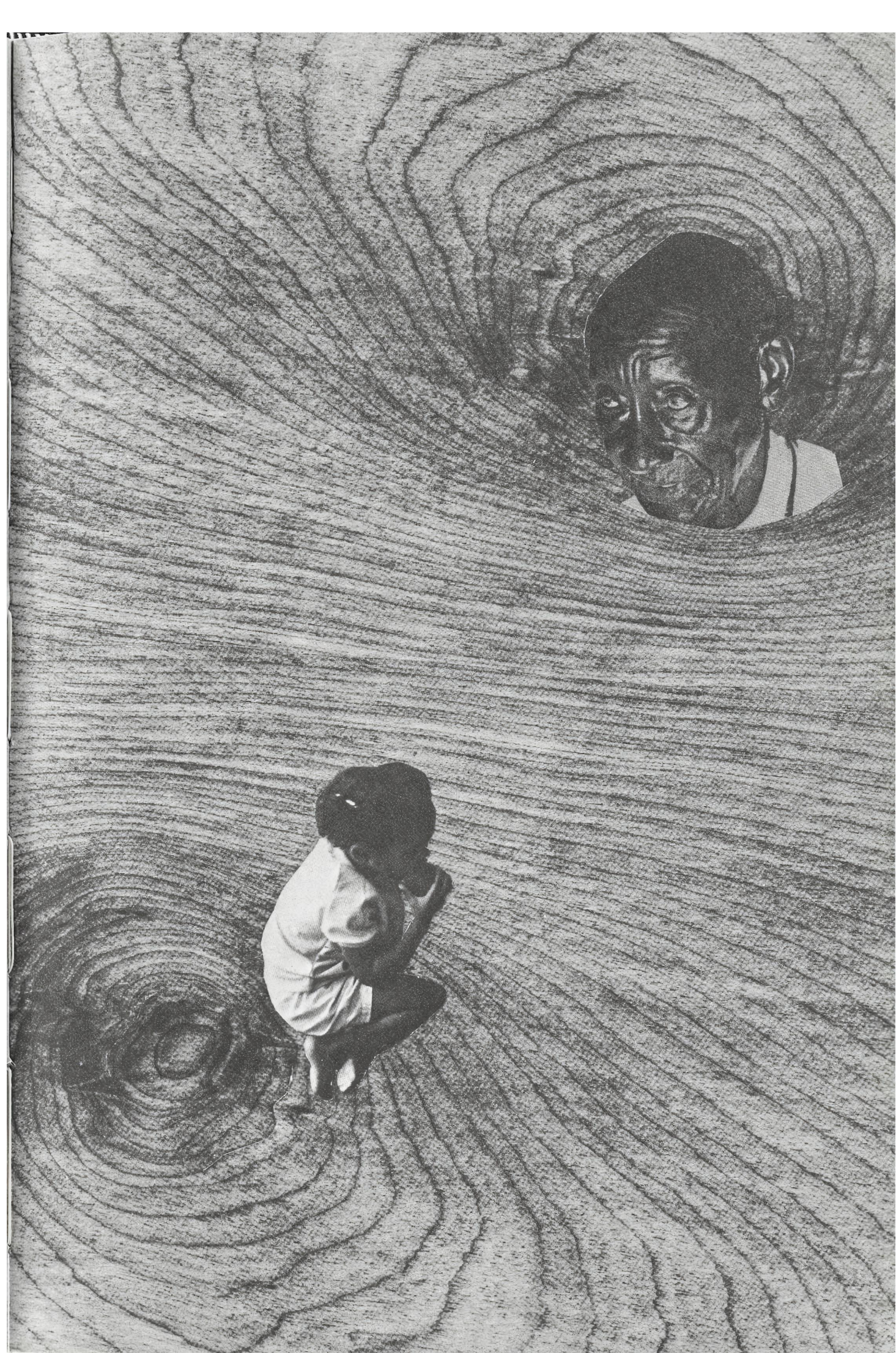
PATTERNS. WHEN YOUR BREATHING IS EXCITED TIME DURATION CHANGES. A CLASSROOM'S BREATHING CHANGES AS IT'S LEARNING IS EXCITING. TIME FLIES. A TIME PATTERN IS NECESSARY FOR COMMUNICATION. FIND SOME PARTICULAR TIME ON WHICH YOU WOULD CHOOSE TO BUILD THE LANGUAGE YOU WILL TEACH YOUR CHILDREN. THIS EVENING? NO! NEXT TIME THEY ARE OPEN. TO CHILDREN, STELLAR CLOCK TIME DOES NOT COME FIRST, UNLESS THEY HAVE BEEN PROGRAMMED THAT WAY. BECOME AWARE WHEN YOU ARE CLOCKING THEM OUT OF THEIR NATURAL RHYTHM.

"Why I always sat her on the potty just after her five o'clock supper till she was trained."

That's the way they used to do it. Now the pot is put in a comfortable place so the bowels message can be heard by the child, then, she walks to Mom's preferred location. The management of internal sensations can be learned best when there is a language which does not distort as subjective the rhythms of our children's felt experience.

EXERCISE: CAN YOU DENOMINATE LABELS THAT WILL HELP YOU TEACH WHAT YOU WISH TO TEACH YOUR CHILDREN WHILE ACKNOWLEDGING THEIR NODAL POINTS? THEIR LEARNING WILL ACCELERATE AS YOU LEARN FROM THEM HOW TO APPROXIMATE YOUR TEACHING TO THEIR WAY OF LEARNING. CAN YOU NAME THE RHYTHMS WHICH SEEM TO TIME THE OPENING AND CLOSING OF YOUR CHILD'S WISH TO LEARN FROM YOU? DO YOU KNOW YOUR CHILD'S WAY OF TRANSITION 'INTO' AND 'OUT OF' YOUR INNER TERRITORY?

The pace of a thinking child is more than how far he has come. His



thinking can go the same distance with quick short steps or long strides. He can pass the same point at the same time from countless zigzag directions. It is strides we are studying, p a c i n g, rhythms, accelerating rhythms which leap across to new creation. A teacher does well to catch the class stride, joining their rhythm and building its measure with a joining excitement. Watch on the video while I blurr the detail, see the rhythm of the teacher joining the rhythm of the students to the rhythm of the experience being studied. The build escalates into a driving force.

EXERCISE: CAN YOU FOLLOW THIS PROCESS IN A CLASSROOM EN RAP-
PORT WITH ITS TEACHER, THEN IN A CLASSROOM ORGANIZED BY ITS
OWN TIMING WHERE THERE IS NO GROUP OR LEADER? WATCH AND FEEL
IT IN THE NEXT GROUP SITUATION YOU ARE IN. HOW DOES ITS PACING
GROW?

EXERCISE: IS THE KINDERGARTEN DANCING PATTERNED OUT OF LITTLE
LEGS? OR ARE PUPPETS BEING MADE FOR A PARENT RECITAL? SO THEY
WILL LOOK LIKE ADULTS? A CHILD'S LEARNING MUST MOVE FROM HIS
OWN BODY'S PATTERN. THE JOINING OF THEIR WORDS AND THEIR IDEAS
AND THEIR PHYSICAL STRUCTURE IS FAMILIAR TO CHILDREN, IT SETS
A LEARNING STYLE THAT GROWS WITH LESS RESENTMENT. TRAIN
CHILDREN TO THE LOGIC OF STILLNESS AND YOU TEACH THEM TO FEAR
THE RAPID CHANGE OF LIVELY GROWTH.

To think in rhythms rather than beginning and end or distance trav-
elled let's imagine that at the finishing line is a great big monster who
will eat you up. . . you cannot experience finishing.

You are gone.

There is no way to start over.



No baby ever could crawl back down the phylum. Since you do not experience beginning -- having already begun in order to experience, you might as well enjoy wondering about the kinds of pace and the variations in pace and rhythm and bars of our living adventure. It will be fun to teach the children as we listen to their rhythm in concert with our own.

We humans are not solitary runners.

We run in a space filled with air and ground and creatures.

The resonance of life itself fills our song with greater meaning.

Each moment's phrasing gives context to others.

How does one weigh the songs of living creatures against SO WHAT Anschluss! We just ran through another country -- a diplomatic victory. Mushroom clouds may pop the old debris. Stop, so we can start anew? How shall we code meaning so we can weigh each other's so what? What is relevant? It's not chess we're playing. The rules are moving. Only change is inevitable, that means relative stillness sometimes. Is there to be confusion? Or can we readjust convention to our expanding explosion. A child's experience explodes as he moves towards his birth.

Can we find a way of dancing which grows within the spirit of our times?

Can we dance as kindergarten children freshened with bud bursting moments?

Can we find patterns?

We need denominations.

Preserving the wild ass



...ALE STERILITY IN CORN, Progress
J. R. (Florida Univ., Gainesville, Dep
Dec 1970. Contract AT(40-1)-2583. 15p.
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...enclosure
...interest, such as dan-
...correlations between
...meat and those found
...the destructive force of high winds
...the main hazard of the
...Grahamstown, rich above all
...fire has always been the
...old mills and

African Post
as 62 082 em-
these, 9 466 are
technical officials,
ning, col-
taining the
munications
manne-

...the move from
...listening now to
...if they had read it in a book for
...is just outside the window.
...find traces of a tiny settlement
...of an Indian raid
...have seen the
...that period.

...still an invaluable aid to man in many
...of wild asses but there are still a few subspecies
...have never known the restraint of halter
...saddle. Many of these inhabit arid
...choice. It is possible that some spec-
...been driven to these inhospitable
...because of the gradual encroac-
...cultivated land and domestic
...The wild asses are everywhere threatened
...are not easy to
...of the wild asses are everywhere threatened
...are not easy to

...fact the wild asses are everywhere threatened
...with possible extinction.
22: PLAIN SIGHT RULE—People v. Marshall
LIFE SCIENCES
...in an unmarked police car at a vantage point across the
...rtment. They sent an inf-
...red the apartment

From Conference on time and dose relationships in
biology as applied to radiotherapy held at Carmel, California
September 15-18, 1969.
For studies on effects of heat treatment on the yield of si-
strand breaks, *Escherichia coli* cells were exposed to 52°C
10 min before x irradiation. The heat treatment did not re-
the viability nor the molecular weight of the DNA, but it in-
fold the yield of single-strand breaks as deduced from
sedimentation data. Studies on radioinduced single-
strand breaks in DNA, radiosensitive mutants of *Esche-
rion repair, recombinational repair, radiosensitiz-
to nitroxides, and DNA repair in mouse leukemia c-
wed. It was concluded that the excision mechanis-
DNA before replication and that a second mechan-
Following replication past defective bases to reconstru-
somal chromosome by a recombinational process invol-*

...which the variances were
...wise we found t. Herea-
...differences will be rep-
ancient mean
t or t* depending upon the homosce-
tions yielding the means.
...actions were studied.

SOMATIC MUTATIONS IN PETUNIA AFTER SEE
T. INT. Cornu, A. (NRA, Dijon, France). Ann.
Plant.; 20: 189-21 (1970). (In French).
...different mutagenic
...and gamma rays, produce
...chlorophyllian or anth-
...of appearance of
...gamma
...are
...ational
...s m-

...TO BUILD. A stu-
...functional space
...es, with a
...touch
...after
...what
...tiest
...have
...ies as in our
...fewer children on
...to begin.
...within our
...of thail-
...Ther
...dev-
...Examination was
...questions were
...ent be used in a video
...al desig's response
...for a child
...Academy
...process in
...then enlarging bookin-

...As the gr-
...production of
...measurement
...represented by
...pollutants as
...afterward. We
...engain-
...used on lib-
...is equip-
...the fact that Bantu
...HERE is concern on the island
...already that the tests are not
...being monitored properly," is
...he told me, "at least in the
...sense that we are always
...the dark about the results. After
...each round of tests, you hear com-
...plaints here about skin diseases. One
...nose emp-
...others
...ivi-

We are communal creatures.

We need words to share our rhythms.

We wish to build our thinking from our rhythms,
to our times.

There are rhythms of rhythms.

Each human's arm and her back and his leg and its
way of fitting to another's and the sound of rain constrains.

The bamboo snaps.

There is a feedback rhythm in our language, in our values, in our religions, in the excellent way of throwing a garbage can up on the truck so that just the right amount of garbage falls back so you know most of it got there. While springing through time if you send a message and nothing comes back how do you know you were there? Or where you are? There is a basic self reference rhythm which is important to human operation. The duration of the return is the moment called 'now'. They blocked the sound of his footfalls with an electronic device. They delayed the sound of his voice in his ears. He was confused. He would not speak or move. "He" was afraid he was not there. Even a slight change in the sent rhythms return blocks orientation.

There is a spiral here!

If you need to hear back what you said in order to know that you said it -- how can you speak in a language that isn't yet familiar to your ears. It will sound at least a little like nonsense. What if the return from your probing is altered by a new process. Has the telephone ear-phone-ear-circuit changed our diction. Has reading changed our way of vision? What is the nature of these spirals?

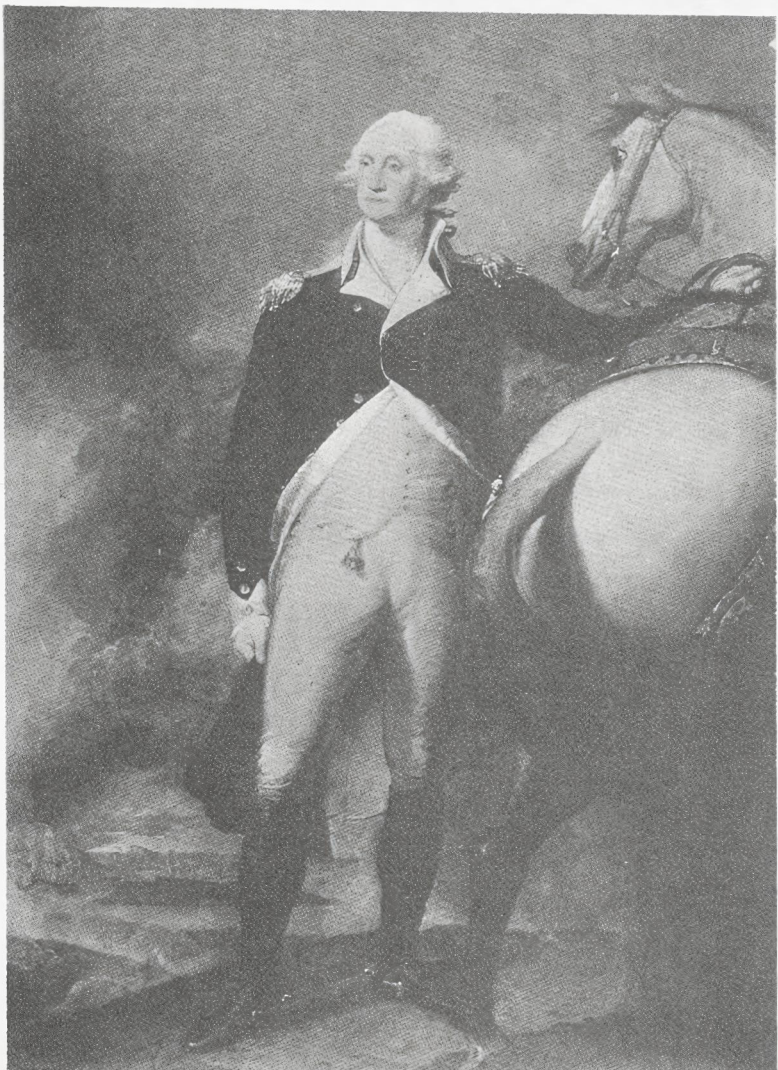


The rhythm of a classroom can be changed so it does match the teacher, children, and machines to each other or so that it does not. The newness of a technology of learning is strange to those who are so used to oldways that they are just 'simple', 'natural' if irrelevant. Out of control unlearning builds anxiety that slows the process of integrated learning. We do need new language with which to adaptively control educational changing.

What seems absurd is the beginning of change, but the return message must fit to some degree with what you can take in and rhythm with your own learning process or it is noise. Any new system must have information tuned to your timing, or you cannot speak or hear it. The teacher or machine that learns the children's timing can build their learning rate by knowing the way the child will decode the message sent. A child on the accelerating upswing of learning decodes differently. Information must be encoded so that it can give the maximum intended specificity when it is decoded.

Each enhancement of this process facilitates more enhancement. Communication grows -- this growth builds increasing acceleration as there is approximation of the learning-teaching process to the critical nodal points within the total system. This is so broad a statement as to be close to gibberish but we continue (remember we must push this unstructured edge to find new language).

In order to dance in the concert of our times we must somehow broaden the base upon which being a "natural" human being is conceived. Our new technology can magnify our errors, the rapid rate of change magnifies this magnification -- a small shift in a quickly moving process can explode. We must become expert at pointing out the 'civilized' way we have grown without nipping in the bud what have been to us irrelevant paths. . .



The child has a new destination.

R h y t h m c h a n g e . . . T a k e a b r e a t h .

Can you remember the feeling of wanting to tell before you had words? A butterfly lit on a petal softly -- it feels good and comforting and night to smell the warmth of blankets which cuddled us once.

How real I was before the days of being a turnpike man with safety belt.

The grumbling of each modern man's wordless soul commands these changing times. . . . Art is broken open and the jet of science has left its sound behind. We are breaking through again and again. We must hasten our human development to catch what our minds have defined.

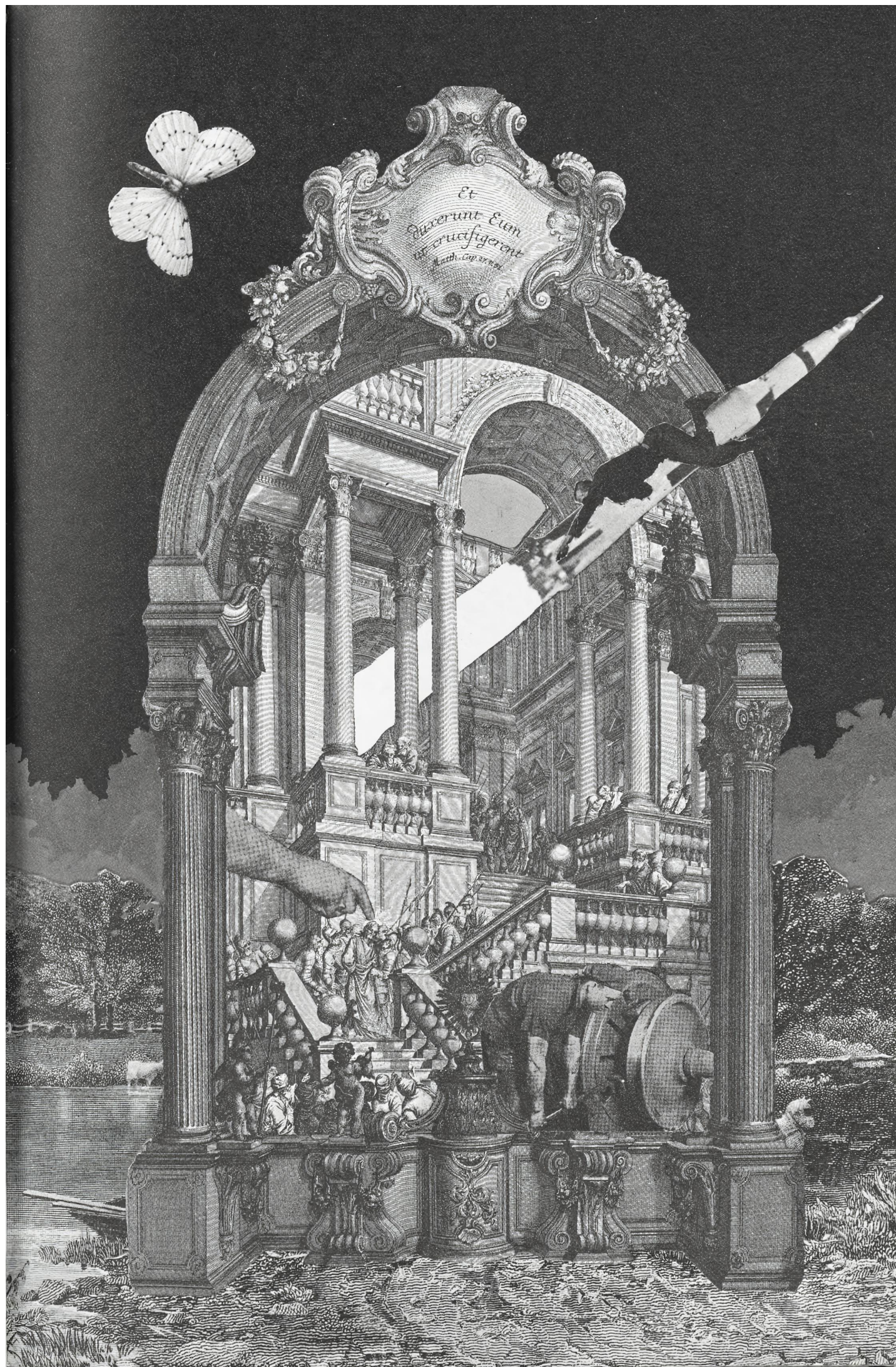
The coin that evolves us rests within our breast pockets, near our hearts; and in our pants pockets.

With fanfare someone must formally introduce your long-saved coinage and give it rightful value. Such is the purpose of this book. At least to induce you to formally introduce it to your children.

Trumpets! Pfft! Hurrumph!

Sshh, s m i l e, twinkle, a i r, ah! fresh air! irreverant jog, dancing should not be educated out of spring. Growth happens. There is a language of growth.

The metal of this growth coinage is your experience of growing.



This is a coinage of intimacy, of action, of movement, shift, space, timing, signals, intention, non-intention, feedback, breakfast, bacon -- relative to eggs, and Einstein. Remember father's voice speaking to a little boy from huge head tilting down? Can you see your father's lips moving? Still picture memories can remind us of symbols -- crosses and clowns, but not of the restless sound of steaming horses. Petals folding as the sun darkens -- is the process world. Blossoms on a black bough living during night, unlabelled but alive. . .

The new coin is as old as eating before eyes and teeth and tongue were separate words. Cooking began before cookbooks. Imagine a new cookbook that explains explicitly the oven heat, the baking, the mixing, and the eating combinations, but leaves ingredients to intuition. Be honest, it is the skill in timing and controlled mixing that separates the tasty wife from the meal maker.

Imagine classifying ten minute recipes on one page and twenty on the next. A working wife's cookbook would upset her grandmother.

Language classification, code or coinage is a convention. Stamp the metal with an eagle, code it by convention and it becomes a medium of exchanging human work, sweat, summer evenings. Coin materializes the prevalent conventions.

An eagle in flight is the heraldic device of the new coin. Our metal is alive -- a bird's fast pulse will not alight on the stillness of the timeless metal.

Yes! The American eagle is pregnant!



A bud moves its windy flower held within till time and
warmth instruct:

F l a r e n o w!

Pet-a-a-a-lls, o p e n!

Hup two three!

Evening coolness wraps them closed.

The new language holds growth time within its rhythm.

Stillness now becomes an abstraction referring to less jogged
stirring. . . a time of unperceived movement.

Do you believe what you are used to has ceased to exist? Can
you specify the cyclic flow of common things and experiences you are used
to in and out of your awareness? Is your foot there?

Tell me of your foot's sensation now!

Is the ground pressing it up?

Name the feeling. . . how do our moon astronauts name new foot
movements in new gravity space?

I have no words to describe the pencil's movement in my hand.
Try. Can you feel my pencil move your fingers even as I write? I want
to share with you the sensation of the rhythms within me as I am writing
you. But remember, I am limited by the conventions of what is by old
conventions meaningful to you. Once the new coin is established writing
will be easier. The richness of a hand moving through time needs new
language for its flow.

An epidemic of moving-awareness is arising in every corner. It
is springing within us. And we cannot stem the tide.



I have walked along the evening street and heard your son's voice calling from many windows in many countries that he won't go to bed. Answering voices rhythm the language of their epoch. Human experience and thought are not unique.

A two-year-old is more similar to other two-year-old humans than to anybody else.

Humans share common basic processes -- we sneeze and love alike in spite of variations. Noses channel air alike in spite of hooks and curves and flatness. Breathing is controlled and taught each generation's words. How can I tell you what is so already human as to be wordless? We will coin words together.

How?

Where to start?

There is nowhere still enough to start.

Listen to your air flow, breathing, words. . .

Do you read this book aloud?

Have you tried singing it?

I don't know how to ask you to begin to follow me as I write down the story you already know but think others don't. My problem here is to put the simplicities everyone already understands into words everyone already knows and then to make you aware that you have never before seen them formally introduced.

I am asking you to exercise an old freedom that has new meaning. The new realm encourages new ways of abstracting as they enhance control of change. Choose the way you structure an event as is useful to your



purpose. Be aware of what you have done. Be prepared to communicate your bias.

Observation without bias does not exist!

Each method of abstracting leaves out important information. The observer cannot be aware of all he is observing.

In a time sample problem, shifting time flow is used as the basic measurement:

"I am a drunkard," he said

"I drink because I feel so horrible about drinking."

Cause - Effect - Cause. . . the Bourbon spiral. Which came first, the cause or the effect? Or is this to be understood not in 2 oz. shots but as an exploding reinforcement? The same quart is empty. . . the rate of gulping increases with each shot. . . caring less what he gulped. . . gone before the next has begun. Acceleration. Growth in rate of growth. The faster he downed it the faster it downed him, then with less inhibition he could drink it faster. Apply this in breadth and the new time dimension emerges.

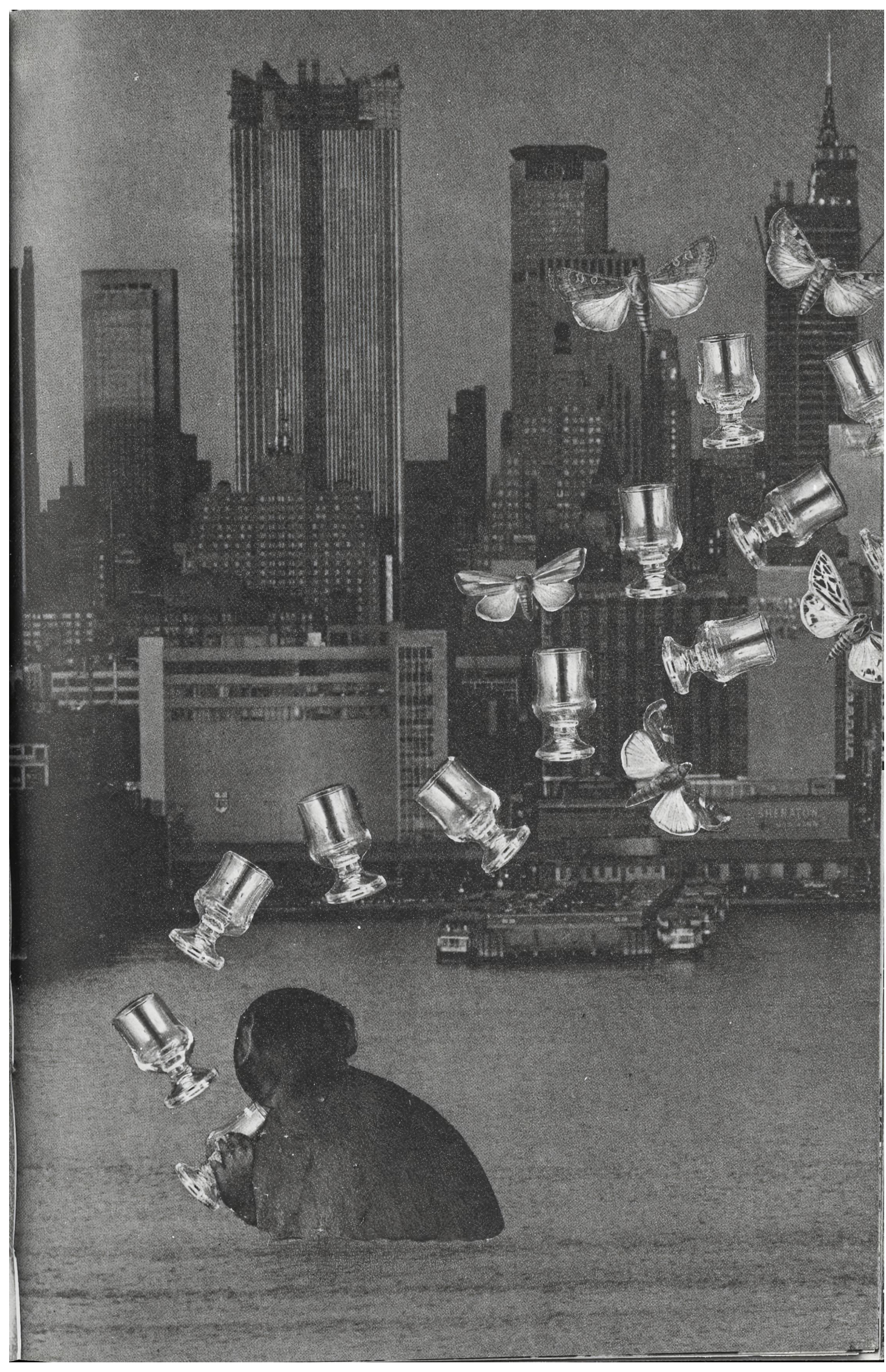
"I want a job."

"But you need experience."

"But how can I get experience without a job?"

"Oh, get a job!"

"School him!"



"He won't go to school."

"Why?"

"He doesn't know the work."

"Why doesn't he know the work?"

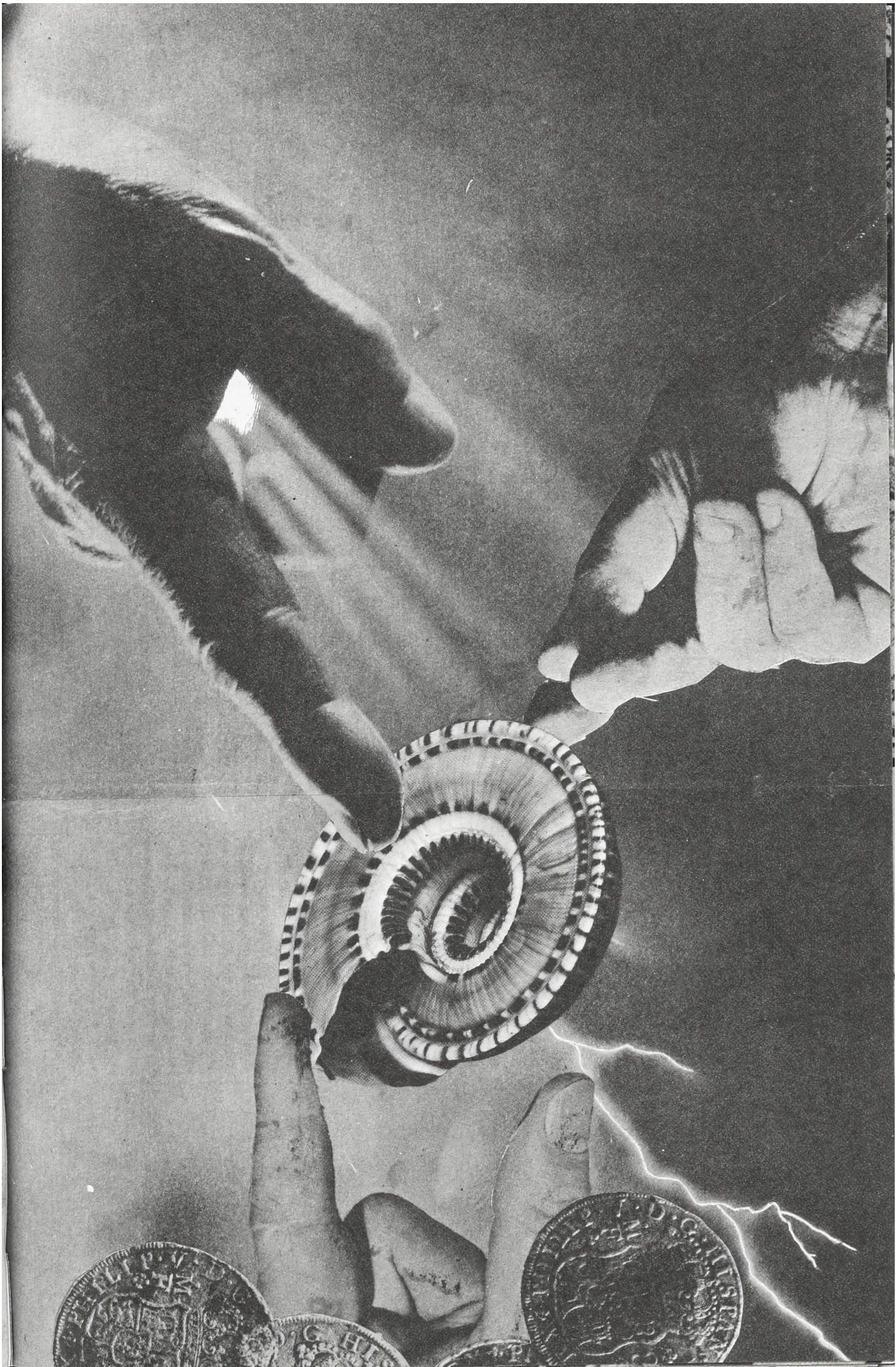
"He won't go to school."

The dropout circle must be measured as a spiral.

TIME PROBLEM: POLITICAL MEETING NOISE: "IT'S UNFAIR! HE CAN'T GET AN EDUCATION WITHOUT A SCHOOL," ONE INTEGRATIONIST STATES. THE SEGREGATIONIST REPLIES: "WHY BUILD SCHOOLS FOR UNEDUCATED PEOPLE?" CAN'T GET A SCHOOL WITHOUT EDUCATION; CAN'T GET AN EDUCATION WITHOUT A SCHOOL. SUCH A FUNDAMENTAL PARADOX IN DENOTING A CRITICAL PROBLEM WOULD DEMAND THE SCRAPPING OF A MATHEMATICAL LANGUAGE.

The old coinage took one side as the cause, and the other as the effect. You can just as easily say the lack of education caused reduced enrollment and inhibited the development of colleges in the south, or you can equally well say the lack of colleges caused reduced interest in obtaining an education. You can build public opinion polls asking questions either way. Politicians' speeches use this fatal ambiguity of our language.

TIME PROBLEM SOLVING: CONSIDER THE CIRCUIT UNIT, BOTH SIDES, AS SIDES OF ONE COIN. DEVELOP WAYS OF THINKING ABOUT THE INTERFACE BETWEEN THESE SIDES -- THE RATE AT WHICH MORE EDUCATION GROWS MORE EDUCATIONAL FACILITIES AND GROWS MORE EDUCATION AT VARIOUS VELOCITIES. TO LEARN TO CONTROL THIS EXPLOSION, WE ASK, WHERE DO SHIFTS OCCUR IN THE RATE OF EXPAN-



SION AS IT GROWS? WHEN CAN WE KNOW A CONSEQUENCE THAT WILL ALTER THE NEXT CREATION. THERE ARE NODAL POINTS, POINTS IN TIME AND PROGRESSION, WHERE EACH SYSTEM IS VULNERABLE TO A PARTICULAR KIND OF SWITCHING.

Each technique of abstraction creates its own problems. Lack of teaching about the abstractive process, its couplets and rhythms leave gullible people. The advertizing agencies wound to heal.

"You stink!"

"Buy soap."

This is a simple fake-up problem of naming things -- propaganda.

"They stink!"

"Make war."

The old simplicity that left out time built either/or questions which within the old system had no explicit solution but could be used to deceive and to divide. Each way of abstracting has its own paradoxes -- its particular foolishness. We solve these problems every day by intuition, common sense, good judgement, and cutting through to the heart of the matter.

Let's all write down more of the data processing called judgement. You will notice a problem right away. There is a language for opposites but none for relating disconnected elements bound by proximity in time or space -- except to say one caused the other. Causal relationships will seem a necessary fiction until there is new language. And there will be



no new language until we give up this myth. We must cross this paradox -- using judgement.

TIME PROBLEM: YOU CAN'T MAKE A TREATY WITH THAT COUNTRY WITHOUT TRUST. . . BLABBER BLABBER. . . YOU CANNOT ENFORCE TRUST WITHOUT MACHINERY SET UP BY TREATY. END DEEP VOICE. THE PROFESSIONAL DIPLOMAT IN ACTION TELLS HIS NEWSPAPER THE ARISTOTELIAN STORY --

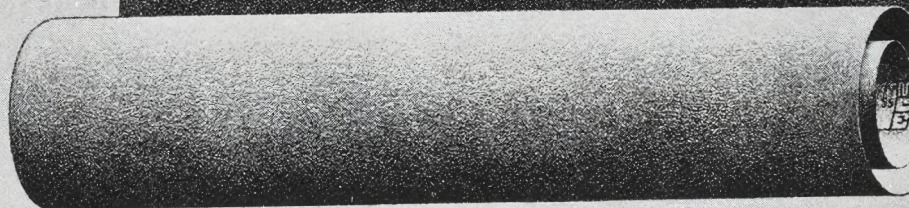
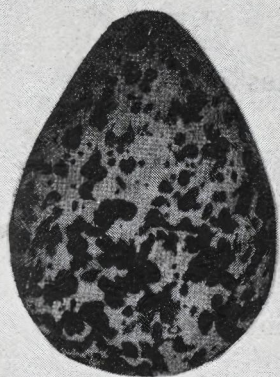
"THEY WERE BAD, BUT, I FOUND OUT WHY,
I KILLED THE VILLAINOUS TRAIT, AND MADE THEM GOOD,
AND OUR FLAG FLIES HIGH."

"WE MUST SUPPORT OUR ALLIES TO PRESERVE OUR HONOUR." THE SIMPLE-MINDED, HONEST ACTION OF AN OLD FASHIONED RIGHTEOUS MAN NOT SCHOOLED TO HIS DECEPTIONS CAN BRING CONFUSION AND DISASTER. JUDGEMENT REQUIRES AWARENESS OF LIES INTRODUCED FOR SIMPLIFICATION.

Oppositional counter-statements are often identical. This is the work of the professional diplomat. A serbian bullet. . . reaches backwards to the same destination. . . justification. Hindsight is placed in history books as if things happened that way.

Aristotelian distortion lies in formal statements that are retrospective explanations of the forward course.

The rabble rousing Anti-Christ preaches in the fiery moralism of the blood and thunder evangelizing minister.



They are more similar than different.

It is not the unsuspected commonness between opposites that we seek to systemize, but the action flow between them.

Sweet and sour are together as in sweet-and-sour fish. They are different from sweet-and-greasy or sour-and-fishy, though both are related to saliva. Sweet and sour together form a set as does black and white. Our language must discriminate with care the similarity of opposites as well as their declared opposition. This new simplicity is taught now in first grade modern mathematics. Does this early familiarity with the relatedness of opposites in a set ensure the obsolescence of familiar Cowboy-Indian, good-evil problems? No! Fragmentation keeps math and Cowboys and Indians quite separate.

Opposites in the new simplicity are two sides of the same coins but the newness is denominating the time flow between them.

Many times have I sat listening to tales of love and hate, and felt warmly the communication of the persons so involved with each other in warm com (together) bat (war), or com (together) fort (strength). They come together.

Our simplest truths are premises implicitly taught and beyond examination. These premises joined in a marriage are taught by adults to children in combat and comfort. These nodal points are taught in behaving together. "Nasty" spoken to a 2-year-old means "don't touch", and "smile", means "clean", sets a program for growing. A common signal system couples the children and parents to their family coding. Each



From the Halls of Montezuma,
To the shores of Tripoli;
We fight our country's battles
In the air, on land, and sea;
First to fight for right and freedom
And to keep our honor clean;
We are proud to claim the title of
UNITED STATES MARINE.

Our flag's unfurled to every breeze
From dawn to setting sun;
We have fought in every clime and place
Where we could take a gun;
In the snow of far off northern lands
And in sunny tropic scenes;
You will find us always on the job—
THE UNITED STATES MARINE.

O Mary Immaculate
Queen of the Universe, most powerful
Virgin, merciful Mother of a merciful
God and refuge of sinners, we consecrate
ourselves to your Royal and Immaculate
Heart.
It is through you that Jesus Christ our
King has come into the world to save it.
It is also through you that He is to reign
over the world.
May all hearts and all homes willingly
proclaim you as their Immaculate Queen.

In order to obtain this great benefit for
ourselves and all mankind, we come to
your feet to consecrate to you our persons,
our lives, all that we are, all that we have,
all that we love. Keep us, enlighten us,
dispose of us, reign over us.

family grows its own sets, as every in-law comes to know. It is hard to measure the flow between the oppositional positions of each generation's own value system, or the flow between the accepted issues of two successive generations.

I have also felt the bitter chill of those untouching eyes which see through corporeal being to majestic illusion. These are not eyes joined by true opposition. Their two monologues have no common coding.

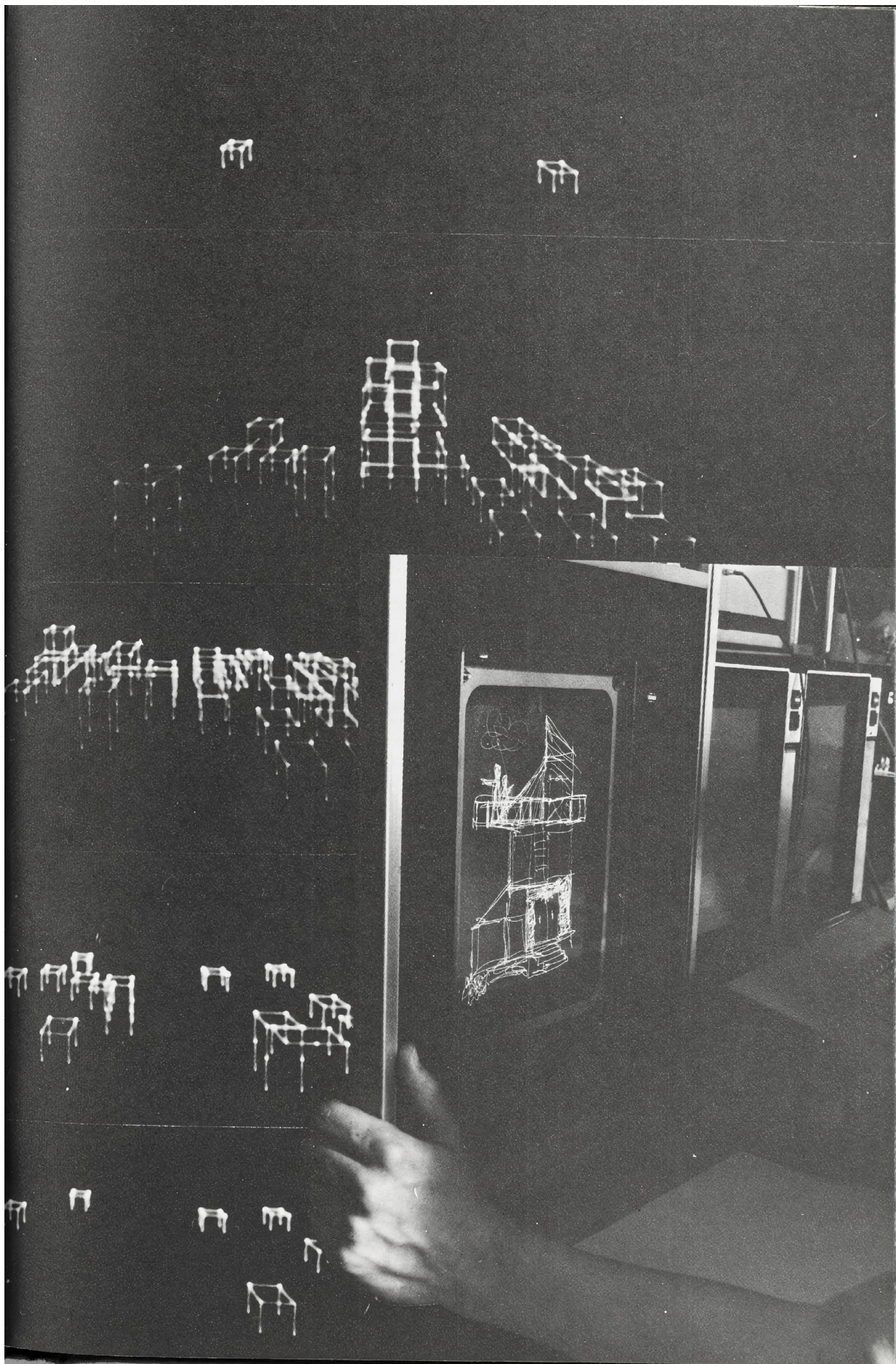
Are you aware of the need for transitions?

Are you aware of my need to take you beyond the flow of your usual questions?

Let us play together!

Into the computer put questions and data which once computed prints out as new questions. Responding to these questions, you feed in more data relevant to your questions recontexted. It returns new and more refined questions. It helps us to home-in on the questions we didn't know to ask, those that will make a difference to the teaching-learning process. Computers provide a metaphor. Man and machine join in a creative dialogue. As it progresses you can seek questions to answers that never before existed, and the machine also reprograms itself to home-in on questions which are increasingly relevant, to the action you have taken in response to its playfulness. But, to teach this humanoid computer to work with us we must find out how we stay lively -- how we play. In explicitly teaching the machine conventions we were taught by implication, we unlearn these conventions and are free again to find others.

The new computer once we have taught it how to search for and de-

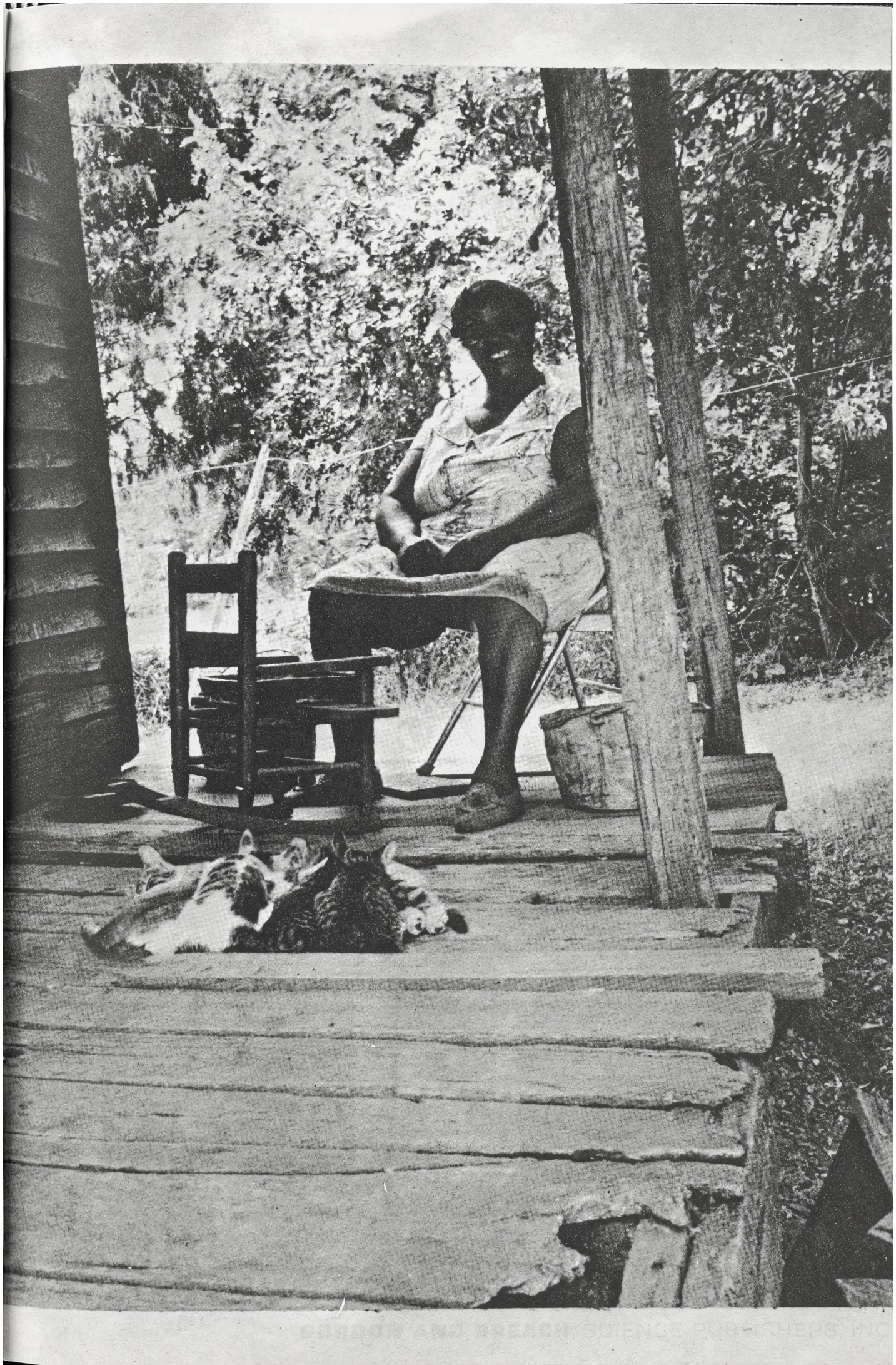


nominate patterns, can find patterns that are so implicit to us we cannot denominate them. As we are more explicitly aware of the basis of our system of denomination, we can enter further into this man-machine searching. Until then we will think these patterns prattle -- absurd. Would we always correct the new findings our tools can produce as errors? The errors of our tools have always been a source of discovery. Must we correct the fresh ways of conceiving that children produce as errors? Can we find a way to learn from our machines and from our children what we did not teach them? There is available to us from our dialogue with machines and with our children a new way to speed up our evolution so that we can learn to enhance fresh potentials -- those patterns native to our species which we have learned not to use. To what extent have the machine technologists done this?

Simulate this problem. Can you?

Old system. . . the machine's way of structuring data is programmed to imitate the limited rigid formal patterning out of which people make sense (those who do not explain with intuition or realize they think with their bodies). Intuition is added in the choice of what "you'd think of wanting to program" and how you would structure the program and interpret results. The machine output before intuitive interpretation is a mere tautological expansion of what went in. This old style machine was just an amplifier which did a man's chores but could not create.

New Systems: Let the machine learn by the way a child uses it how the child likes to play the game of learning and teaching. The machine collects data about the child's performances even as the child is attuned to other matters. The machine conducts its own examinations and from its



results patterns a program for aiding a particular child to learn. This machine may then print out to the teacher the part of its awareness of the child's pattern that it can turn into verbal or numerical statements. The teacher then has to extend his language to match the machine's if he wishes to help the machine translate what it has learned.

This approximation of machine and child and teacher into improved ways of machine-teaching-child-learning-and-environmental-enhancement is accepted in other fields if not in education. In medical diagnosis it has already been shown that man and machine working together can diagnose better than either alone. The computer-like V.T.R. can advance our knowledge of timing and our new denominating.

EXERCISE: PUT INTO A MAN-COMPUTER SYSTEM THE SPEECHES MADE BY PUBLIC OFFICIALS OF THE TWO MAJOR POWERS OVER THE LAST TEN YEARS. HOME-IN TO FIND CHANGE IN GRAMMATICAL PATTERNS CORRECTING FOR THE USUAL GRAMMAR OF THE PERSON AND THE COUNTRY. HOW OFTEN DOES THE PRESIDENT USE THE FUTURE TENSE OR THE SUBJUNCTIVE OR THE IMPERATIVE? EXAMINE THESE ANALYSES FOR PATTERNS OF PROGRESSIONS. PROGRAM THE MACHINE TO BE RESPONSIVE TO THE ACCELERATION IN THESE PROGRESSIONS.

USING THIS KIND OF PROGRAMMED SEARCH, PATTERN INTO CURVES THE RATE OF CHANGE IN THE GRAMMAR OF GOVERNMENT CONTROLLED NEWSPAPER EDITORIALS IN TWO COUNTRIES. CONSIDER THE OSCILLATIONS BACK AND FORTH OF THESE TWO SETS OF CURVES. SEEK PATTERNS THAT CAN BE USED TO CORRECT THESE TWO SETS OF CHANGES INTO A SINGLE TWO-HEADED SYSTEM. ARE THE OPPOSITIONAL STATEMENTS ACCELERATING TOGETHER? NOW SAMPLE VERBATIM SPEECHES MADE BY THE LEADERS IN



TERMS OF THE SAME PATTERNS. COMPARE THE VARIATION IN LAG BETWEEN PUBLIC AND EDITORIAL STATEMENT IN JUST ONE COUNTRY THEN IN THE OTHER. HOW RAPIDLY IS A LEADER'S STATEMENT REFLECTED IN THE PRESS? IS THERE A BUILD-UP? WHEN IS THE LAG IN COMMUNICATION MOST EXTREME? HOW DOES THIS RELATE TO THE ACTION VALUE OF THE STATEMENT? WHAT SHIFTS IN GOVERNMENTAL SITUATIONS MIGHT ACCOUNT FOR PATTERN CHANGES?

"Mary, can you use the computer on your desk to build a picture of this year's news that is related to your favorite style of structuring the world?"

"Uh! How can I decode the statements and undo the national conventions?"

"Mary, we do this with each other. Try to break their implicit code. Try to find a major key to the way it codes its actional foreign policy into public statement. Can we publicly present our adult patterns of structuring to our children so they will then have a key to our reality? They must learn to translate structural aspects of our coding which gives our words different meanings than if they said the same. This is a way across increasing generation gaps."

What is the direction of the editorial change? Are the editorials more ritualized or is there more variety in form? Are they more abstract today? Are there more names? What is the time rhythm? Is the war drum pulsing faster or slower? Is it changing its tone to the higher pitch

--FIRST FIVE-MINUTE SUMMARY--

HERE IS THE LATEST NEWS FROM JOHN

CHEERS ROSE FROM HUNDREDS OF THOUSANDS OF SPECTATORS
(CAPE KENNEDY)--THE LAUNCH OF APOLLO FAILED TO COME OFF
WEDNESDAY NIGHT AFTER TWO COUNTDOWNS. THE ORIGINAL BLAST
OFF WAS HALTED JUST 30 SECONDS BEFORE LIFT OFF FROM THE CAPE
A MAN WITH BINOCULARS SCANNED THE SKY AND SAID ''IT'S UP
THERE IN THAT 'V' IN THE CLOUDS.'' A MOMENT LATER HE SAID
''I LOST IT.''

THE SECOND COUNTDOWN BEGAN AT 10:58 P-M WITH A NEW LIFT OFF
SET FOR 11:20 P-M. BUT THAT ONE WAS HALTED TOO, WHILE CREWS
TROUBLESHOT A PROBLEM WITH A COMPUTER-DRIVEN DEVICE WHICH
FAILED TO PRESSURIZE AN OXYGEN TANK.

ANOTHER MAN POINTED IN THE SAME DIRECTION AND SAID ''I SEE
IT.''

A THIRD WATCHER SAID, ''YEAH, I CAN TELL THAT'S IT BECAUSE
IT GETS DARKER AND LIGHER.''

CATTLE SLAUGHTER UNDER FEDERAL INSPECTION SO FAR THIS WEEK
NUMBERED 370,000 COMPARED WITH 364,000 A WEEK AGO AND 339,000 A
YEAR AGO. THE ATTACK WAS THE HEAVIEST ON SAIGON

(BRUSSELS)--DEFENSE SECRETARY LAIRD SAYS PRESIDENT NIXON
WILL RECOMMEND TO CONGRESS THAT 300,000 AMERICAN MILITARY
PERSONNEL REMAIN IN EUROPE UNTIL MID-1974. LAIRD SPOKE AT
A CONFERENCE OF N-A-T-O DEFENSE MINISTERS WEDNESDAY IN BRUSSELS.

THE SECRETARY OF DEFENSE ADDED THAT THE UNITED STATES EXPECTS
ITS EUROPEAN ALLIES TO SHOULDER A FAIR SHARE OF THE COST OF
THEIR OWN DEFENSE. HE SUGGESTED THAT IT WOULD BE DIFFICULT
FOR AMERICANS TO UNDERSTAND WHY THEY SHOULD BE INTERESTED
IN THE DEFENSE OF EUROPE IF'' IN LAIRD'S WORDS--''EUROPE SHOULD
TAKE ANOTHER COURSE.''

THE SPECIAL MURDER TASK FORCE IS TO CHECK ON CIVILIANS WHO
KEEP ODD HOURS OR SHOW UNDUE INTEREST IN MORNING RADIO AND
NEWSPAPER REPORTS.

IN HIS STATEMENT, NIXON SAID: ''THOSE WHO COME AFTER WILL
STAND ON THE SHOULDERS OF THE MEN OF APOLLO

(MIAMI, FLORIDA)--EIGHT PEOPLE CLUSTERED ON THE ROOF OF AN
OFFICE BUILDING IN MIAMI, FLORIDA TONIGHT TO WATCH OLD APOLLO
CRAWL OUT A BATHROOM WINDOW, HE TRIED TO ESCAPE YESTERDAY, THEN
SOUGHT TO PRESSURE THE THIRD STAGE OXYGEN TANK MANUALLY, BUT
THIS DIDN'T HAPPEN FAST ENOUGH TO SATISFY THE AUTOMATIC SEQUENCER

12:06AES 12-07-72

of frenzy? We can practice on old papers and do sealed predictions. It will be fun to open them next year.

"John, from the look of the 1930-pre-war papers and their pattern of printing displayed on you machine can you categorize progressing states of alarm? Estimate. Now measure headline printing and mathematise your findings. Use the video library for the newspapers. The machine will make the measurements, but you must specify in a way that will give it your intentions."

Words are shorter in the midst of urgency!

How does the grammar shift as tension builds?

What about the change in rate of change in the use of verbs like "must", in the superlative, in the possessive?

How does tension abate?

Can you define the nodal points in the newspaper progression?

Does your heart in fact beat faster as the printing approximates excitement?

Turn on your heart beat display. Does its rhythm relate in more than a random way to the shifting of the news? You've been reading -- first reading?

Now?

EXERCISE: TRY THE SAME CORRELATION WITH YESTERDAY'S PAPER, THE DATA ALREADY STORED. WHAT PIECES OF INFORMATION AFFECT YOUR HEARTBEAT THE MOST? IS THERE A MORE THAN RANDOM PATTERN TO THE WAY THESE AFFECTIVE PIECES OF NEWS ARE WRITTEN?

GERMANY DECIDES WAR ON RUSSIA, FIRST SHOTS FRANCE IS MOBILIZED AND MAY BE DRAWN IN PLANS TO RECALL THE 100,000 AMERICANS IN WAR

GLAND HESITATES AT COURSE TO TAKE

Wants to Throw the Weight
of Great Navy at Once in Favor
of Russia and France.

LONDON, Sunday, Aug. 2.—Great Britain's role in the European war has been a great question. The British Government has been divided into equal parts on the question whether to take immediate action or wait developments in the hope of remaining outside of the war.

Edward Grey, according to this morning's headlines, which state that it is the English duty and not to throw the weight of her navy into the scales on behalf of Russia and France.

Lord George leads the other faction, which believes that this country with honor and advantage should stay outside and not engage in a European conflict.

His statement, which is given for the first time, is that the Chancellor of the Exchequer thinks that England and the United States can not intervene at a propitious moment in such fashion as to reduce to the extent the horrors of a Continental Armageddon. In passing it is mentioned that the widest range has been current on all aspects of the situation for a week past. The Government refrained from saying that because the actual state of the situation requires no sensational embryology.

Cabinet to Meet Tonight.
A special meeting of the Cabinet has been summoned for the unprecedented hour of 11 o'clock tonight. Most of the Ministers are remaining in town, and none is going out of town. Some hope to get a day's golf, and a respite.

The Cabinet Council met for two and a half hours yesterday. Sir Edward Grey left in the middle of the proceedings for the Foreign Office.

His references to the Cabinet's position. The Observer this morning states: "France and Germany have cast the die on their fortunes. Before this, or even before these lines are written, we shall be in the western theatre of war. The first of a tremendous struggle that will decide the destinies of the Old World for generations. The first of a struggle that will decide the fate of the West and the East."

It is after the momentary wavering of the last week, that we are told we shall be too late to influence the situation which indirectly but will decide our own fate no less than that of France. Our hours are numbered. If the Ministry decides to desert France, then they will be the last of the list of nations who have any power or trust."

Stand Ready for a Blow.
It is said that the Cabinet is likely to make a decision tonight. One factor which will probably influence the decision is the total absence of indications of any of anti-German feeling which has been a feature of the spontaneous action of recent days. In the event of the Cabinet siding with war, speculation is rife as to what the fleet will do first.

The First Home Fleet, which sailed under Admiral Jellicoe, is believed to be at the coast of Holland or in the neighborhood of Denmark. A First Fleet of the Admiralty said to First Fleet correspondent tonight: "It is a lie to speculate. Only three ships in England know what its orders are."

Thanks to the recent British review by the King, Great Britain's military position for war, and the mobilization of mobilization would be really affect the second line. Its ability to strike a sudden, serious blow is not doubted in England, and it is believed from the orders given to the fleet that the blow is apprehended by Germany.

The Admiralty is, of course, in wireless touch with the commanding officer of the fleet, and any possibility of interference with the radio communications is being strictly guarded. It is believed that all amateur or private wire systems must be stopped.

GRAND ARMY OUTING
The Grand Army of the Old World is being sent to the front. The Grand Army of the Old World is being sent to the front. The Grand Army of the Old World is being sent to the front.

France Orders Mobilization After Germany Asks Her Intentions.

DELCASTRE WAR MINISTER

Germany's Old Enemy Heads
Army Organization—Once
Nearly Caused Conflict.

CLEMENCEAU IN CABINET

President and Cabinet Issue a
Manifesto to French
Nation.

PLAIN WORDS TO GERMANY

"You Are Mobilizing; We Know
It," Says Prime Minister
to German Envoy.

ORDERS TO FOREIGNERS

Americans May Stay on Getting
Permits—Australians and Ger-
mans Liable to Arrest.

PARIS, Aug. 1.—An official decree orders a general mobilization of the French Army, beginning tomorrow.

The mobilization, according to the official decree, is to be completed at 11:50 o'clock tomorrow night. The wildest enthusiasm was manifested on the Paris boulevards when the news of the order became known. Bodies of men, formed into regular companies in ranks ten deep, paraded the streets, waving the tricolor and other national emblems and cheering and singing the "Marseillaise" and the "Internationale," at the same time throwing their hats in the air.

Here and there the cry, "On to Berlin!" was raised. On the sidewalks were many weeping women and children. All the stores and cafes were deserted.

Relations Not Yet Severed.
The decree of mobilization of the French Army, which was followed by a proclamation by the President and the Cabinet to the nation, has, however, not terminated diplomatic relations between France and Germany.

Conversations between the powers, notably between Russia and Austria and between France and Germany, continued this evening. Up to a late hour tonight, it was stated, the German Ambassador was still in Paris.

A rumor in circulation here tonight was to the effect that there were some waverers in the Cabinet yesterday on the question of ordering the mobilization, but that the views of those who asserted that it would be suicidal to allow Germany to put France to further expense with regard to war preparations without actual mobilization prevailed.

The course of diplomatic events since yesterday afternoon can be stated briefly as follows: Baron von Schoen, the German Ambassador to France, called on the French Premier, René Viviani, at 7 o'clock last evening and formally notified him that Germany had addressed an ultimatum to Russia, desiring to know by noon today whether the St. Petersburg Government would discontinue the mobilization of the Russian Army.

Baron von Schoen was directed by his Government to ask what were the intentions of France should Russia's reply to Germany be a refusal to demobilize.

The German Government fixed "before 1 P. M. today" as the period within which France must answer. Baron von Schoen called at the French Foreign Office at 11:40 A. M. to receive France's reply. Premier Viviani made an earnest appeal to the German Ambassador, asking if Germany could not yet do something to avert war.

The Baron promised to communicate with Berlin and to return to the Foreign Office at 4 P. M., which he did.

You Are Mobilizing; We Know It.
In the course of their second interview today Premier Viviani said to the German Ambassador:

"You are mobilizing. We know it. You are mobilizing. We know it. You are mobilizing. We know it."

Poincare Orders Mobilization, Telling France It Is Not War Yet

PARIS, Aug. 1.—President Poincaré and the members of the Cabinet today issued the following joint proclamation to the French nation:

"France, who always has offered her desire for peace, who has a tragic duty has given to Europe a lesson of moderation and a living example of decorum, and who has multiplied her efforts to maintain the peace of the world, has not prepared herself for all eventualities, and has taken from henceforth her first indispensable dispositions for the safeguarding of her territory."

But our legislation does not permit the completion of these preparations without a decree of mobilization. Conscious of its high responsibility, and feeling that it would fall in the error of it if it did not take this measure, the Government has signed the decree.

Mobilization is not war. Under the present circumstances it would appear, on the contrary, to be the best means of assuring peace with honor.

Strong in its ardent desire of arriving at a peaceful solution of this crisis, the Government under cover of these essential precautions will continue its diplomatic efforts, and still hopes to succeed. It counts upon the wisdom of the people not to give itself up to unjustified emotion. It counts upon the patriotism of every Frenchman and it knows that there is not a single one who is not ready to do his duty at this hour.

There are no longer any parties. There is an eternal France—France peaceful and resolute. There is a fatherland of peace and justice, all united in calm vigilance and dignity.

main unchanged. We wish peace, and the best proof we can give you of this is that at the present moment the French Parliament has not been convened. Under our constitution we would be compelled to convocate it if our intentions were not peaceful.

Baron von Schoen said: "But French incidents are unfortunately to be feared."

Premier Viviani replied: "How can you suppose such things? Our troops are five miles from the frontier. We are, in fact, exposed to the violation of our frontier, and there is not another power in the world which would have consented to do such a thing."

This refers to the withdrawal of the French troops from the immediate frontier.

The Premier proceeded to point out that the German troops were at the very foot of the frontier posts, and he concluded from this that if incidents occurred they could only be attributed to the German military forces.

The German reply was submitted to a French Cabinet Council, which, after a few minutes' discussion, ordered a general mobilization of the French Army.

The date of the mobilization was set for tomorrow. The men are called out in classes at intervals of five days, according to the order of their birth.

Nothing is known among the general public as to what is going on behind the scenes which fell along the German frontier, about 4 o'clock yesterday afternoon.

Arrangements were made last night by the German Government to receive the German Ambassador, acting under instructions from the German Government, to the affairs of the German Embassy, while Alexander H. Thackeray, the German ambassador to France, was to look after the affairs of the German Consulate.

All foreigners may leave Paris or France before the end of the first day of mobilization by train, but not by automobile. Those desiring to leave France may do so by certain trains, the times of which are posted on the walls of Paris tonight, or by sea.

American citizens or British subjects may remain in France, except in the region on the eastern frontier and near certain fortresses, provided they make declarations to the police and obtain special permits.

No foreigner will be permitted to leave France without a passport signed by a Prefect. Americans, Englishmen and other foreigners may remain in Paris by obtaining special permits from the police.

Delcastre War Minister.
LONDON, Aug. 1.—A dispatch to the Central News by the indirect route reports that Premier Viviani has made changes in the Cabinet.

Thophile Delcastre becomes Minister of War, and Georges Boncompagni, ex-Delaune, joins the Ministry.

M. Delcastre is one of the bitterest enemies of Germany among French statesmen. He nearly caused a war with that country in 1905.

Cabinet Council in Session Till 11.
PARIS, Sunday, Aug. 2.—The Council of Ministers, which held a late night session to discuss the European situation, adjourned today after 11 o'clock this morning. It will continue its discussion of the situation this afternoon. The announcement of the result of the deliberations has been given out.

Germany's War Challenge Delivered to Russia at 7:30 Last Evening

EMBASSY THEN DEPARTS

Enrollment of Reservists Begun
Throughout the Czar's
Vast Empire.

STIRRING SCENES ATTEND IT

Hardly a Family but Loses a
Protector, Yet They Take
the Call Submissively.

FRANCE HAS TILL MONDAY

Reply to Germany Due Then,
but Issue May Be Forced
Earlier.

ITALY REMAINS NEUTRAL

Triple Alliance Obligations Not
Touched, She Says—Feared
a Revolution.

LUXEMBURG INVADED.
Germans Seize a Neutral State
Between Them and Paris.

LONDON, Aug. 2.—The Germans have invaded the Duchy of Luxembourg. They seized the Government offices and telephones. The news reached here in a Reuters' telephone message from Brussels at 4 A. M. New York time.

Luxemburg is a neutral State southward of Brussels, with its borders on Germany and France. A straight line drawn between Berlin and Paris would pass through the heart of the Duchy of Luxembourg.

Special Cable to THE NEW YORK TIMES.
LONDON, Sunday, Aug. 2.—The news that Germany had declared war against Russia reached London from St. Petersburg last evening, only half an hour after a Central News dispatch from Paris had raised the hopes of all by the statement that Germany had extended for forty-eight hours, that is, until Monday noon, the period in which Russia and France could reply to the German ultimatum.

The first of these ultimatums was one demanding that Russia cease the mobilization of her army in twelve hours.

The second was a note presented by Baron von Schoen, the German Ambassador in Paris, to Foreign Minister Viviani calling upon France to inform Germany whether in the event of the outbreak of war between Germany and Russia, France would remain neutral.

These notes were regarded as diplomatic skullduggery, designed to cover the hard fact that Germany was bending all her energies to the delivery of the first blow, which might affect the whole course of the war, now officially begun.

In the history of modern warfare an official declaration of war is either accompanied or preceded by an actual stroke of war.

In London this morning it is believed Germany would not officially declare war upon Russia unless her plans for a rapid attack had been entirely completed. Where and how the first blow will be struck is a matter of the widest speculation.

France Not to Be Involved.
France's reply to the German request as to the former's attitude in case Germany engaged in war with Russia is stated to have proved unsatisfactory to Berlin. It was bound to be. Germany could count confidently on it being so. Therefore, according to speculation in London this morning, the eventual news is likely to show that Germany has taken an unsatisfactory reply from France for granted, and while declaring war on Russia has struck or has made her preparations to strike at France. This, of course,

Chronology of Yesterday's Fateful Events

12 Midnight—Germany demands that Russia cease mobilization and gives a twelve-hour limit.

4 A. M.—King George of England, after an audience with Premier Asquith, telegraphs to the Czar, making a strong appeal for peace.

12 Noon—The time limit of Germany's ultimatum to Russia expires.

5:15 P. M.—Premier William signs an order for the mobilization of the German Army.

7:30 P. M.—The German Ambassador at St. Petersburg delivers to the Russian Government a declaration of war in the name of Germany and leaves St. Petersburg.

First Shots Fired in the Russo-German War.

BERLIN, Aug. 1.—A German patrol near Proskien was fired on this afternoon by a Russian frontier patrol. The Germans returned the fire. There were no losses.

Proskien is a village of 2,300 inhabitants, in East Prussia. It is situated about two and one-half miles west of the international boundary line, on the Königsberg & Lyck Railroad. The nearest Russian village is Grajewo, about three miles across the international boundary.

Kaiser Forgives Enemies, Prays for Victory.

BERLIN, Aug. 2.—The Emperor again spoke from a window of the Castle tonight to a crowd of 50,000 people, who cheered and sang patriotic songs until he appeared. He said:

"I thank you for the love and loyalty shown me. When I enter upon a fight let all party strife cease. We are German brothers and nothing else. All parties have attacked me in times of peace. I forgive them with all my heart. I hope and wish that the good German sword will emerge victorious in the right."

The speech was thrice interrupted by vociferous cheering. At its conclusion the Kaiser bowed in all directions, retiring amid a frenzied demonstration.

The Imperial Chancellor also addressed the assembly, saying: "All stand as one man for our Emperor, whatever our opinions or our creeds. I am sure that all the young German men are ready to shed their blood for the fame and greatness of Germany. We can only trust in God, who hitherto has always given us victory."

An imperial decree convokes the Reichstag on Aug. 4.

It is pure speculation, and this New York Times correspondent mentions it for what it is worth.

The established facts bearing on the crisis in yesterday's developments are important to note. The first is that the effort made by King George to bring influence to bear on the Czar in favor of peace failed of effect.

The terms of the King's telegram are guarded as the strictest secret. All information THE TIMES correspondent could obtain was that the message was of a highly personal and confidential nature. It followed an interview with Premier Asquith at 10 o'clock yesterday morning.

Italy Feared a Revolution.
The second development was a confirmation of the report that Italy would remain neutral as long as she was assured that her interests were not menaced.

From an official source THE TIMES correspondent learns that the Italian Government was practically forced to this decision by the apprehension that the taking up of arms on behalf of Austria in a quarrel, precipitated by the hereditary enmity of Italy, would have caused an immediate revolution in Italy.

Italy's attention is a serious blow to the Triple Alliance and may yet prove an important factor in determining if not the issue of peace or war, at least the duration of the conflict.

One of the ways suggested to prevent the outbreak of war was that Italy and Great Britain should combine and declare themselves on the side of France and Russia. The suggestion, utterly disregarded by Italy, by which Italy was bound to the Triple Alliance, but it was given some color of vraisemblance by the fact that the British and Italian Ambassadors in various capitals have been working together in a manner which indicated that the Italian Government preferred any peaceable solution of the war to the treason which bound her to Germany and Austria.

The third important development of the night was the news that the French Government had issued orders for general mobilization.

This came a few hours after the severance of telephonic communications between London and Paris. The French Government informed the British authorities that the telephone was cut for ordinary communication in order to prevent any leakage of information.

Up to 2 o'clock this morning practically no news beyond the announcement of the mobilization had been received from Paris.

The fullest confirmation of the general mobilization was obtained in London by the issue of a notice to the French Embassy here. This called upon all Frenchmen liable to military service to return to France within twenty-four hours. The news quickly became known in Soho, the French quarter of London, and this morning bands of enthusiastic Frenchmen paraded through Leicester Square.

The almost complete severance of telegraphic and telephonic communication with Paris was shown by the fact that a London paper which had made most elaborate arrangements to obtain a special wire, under a guarantee that nothing in the nature of leakage of military secrets could possibly occur, had not received a word out of Paris up to 3 o'clock this morning.

Telephonic and telegraphic communications with the Continent were generally interrupted.

GERMANY'S DECLARATION

Served by the Retiring Ambassador as Russian Enrollment Begins.

ST. PETERSBURG, Aug. 1.—The German Ambassador, in the name of his Government, sent a declaration of war to the Russian Ministry of Foreign Affairs at 7:30 o'clock this evening. The declaration was signed by the entire staff of the German Embassy then left St. Petersburg.

Martial law has been proclaimed in the capital and its suburbs. Arrangements of the declaration of war was made to the people two hours after it had been received. The city immediately presented a spectacle of extraordinary animation. The Nevsky Prospect and all the leading thoroughfares are filled with war-torn people marching to processions, carrying portraits of the Emperor, with flags waving and torches blazing. From time to time there is an outbreak of cheering, followed by singing.

Speakers fired with patriotic fervor harangue the crowds. In front of the Kazan Cathedral each procession, halts and a sudden hush falls over the multitude. Then the strains of the national anthem, sung in perfect harmony by a section of the procession, are heard, and the crowds listen, silently with bared heads. On the conclusion of the hymn the procession moves forward and the demonstrators are resumed with greater ardor.

Enrollment of the reservists started at a hundred centres in St. Petersburg at 6 o'clock this morning and was accompanied by stirring scenes. Crowds of women and children accompanied their husbands and fathers to the assembling stations, while priests everywhere blessed the reservists as they marched through the streets singing hymns.

The Municipal Council of Warsaw has voted 1,000,000 rubles (about \$200,000) for the Red Cross service of Russia and friendly powers.

The Fateful Red Posters.
Special Cable to THE NEW YORK TIMES. ST. PETERSBURG, Aug. 1.—At 11 o'clock this morning the city was now concentrated on the mobilization of the troops. During the night bills were posted in all parts of the city summoning the whole of the reservists to the colors, and the regular army to read the starting news on posters printed in red.

Women went, but the men took it for the most part quietly and seriously. Such expressions are frequent on all hands. Hardly a house, hardly a family, hardly a man, hardly a woman, hardly a child, hardly a dog, hardly a cat, hardly a bird, hardly a flower, hardly a leaf, hardly a drop of water, hardly a ray of light, hardly a breath of air, hardly a sound, hardly a thought, hardly a feeling, hardly a hope, hardly a dream, hardly a wish, hardly a prayer, hardly a sigh, hardly a tear, hardly a smile, hardly a frown, hardly a look, hardly a glance, hardly a nod, hardly a wink, hardly a shrug, hardly a gesture, hardly a movement, hardly a sound, hardly a sight, hardly a smell, hardly a taste, hardly a touch, hardly a feeling, hardly a thought, hardly a hope, hardly a dream, hardly a wish, hardly a prayer, hardly a sigh, hardly a tear, hardly a smile, hardly a frown, hardly a look, hardly a glance, hardly a nod, hardly a wink, hardly a shrug, hardly a gesture, hardly a movement, hardly a sound, hardly a sight, hardly a smell, hardly a taste, hardly a touch, hardly a feeling, hardly a thought, hardly a 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IS IT THE MATCHING OF THE WRITING RHYTHM OF THE EVENTS BEING STORIED? IS THERE A CONSTANT RESPONSIVE PATTERN FOR THE WHOLE CLASS?

COULD YOU USE THIS KNOWLEDGE IN A CLASS ELECTION? IS NEWS BEING PREPARED NOW WITH THIS KIND OF ANALYSIS IN MIND? CAN YOU SHOW ME THIS EFFECT? EACH NEW ANSWER GROWS NEW QUESTIONS.

"Benjamin, using the data phone and Central Information Storage Center and video for writing, show our guests the time words for children, adults, other creatures relevant to the creatures you've chosen to play with."

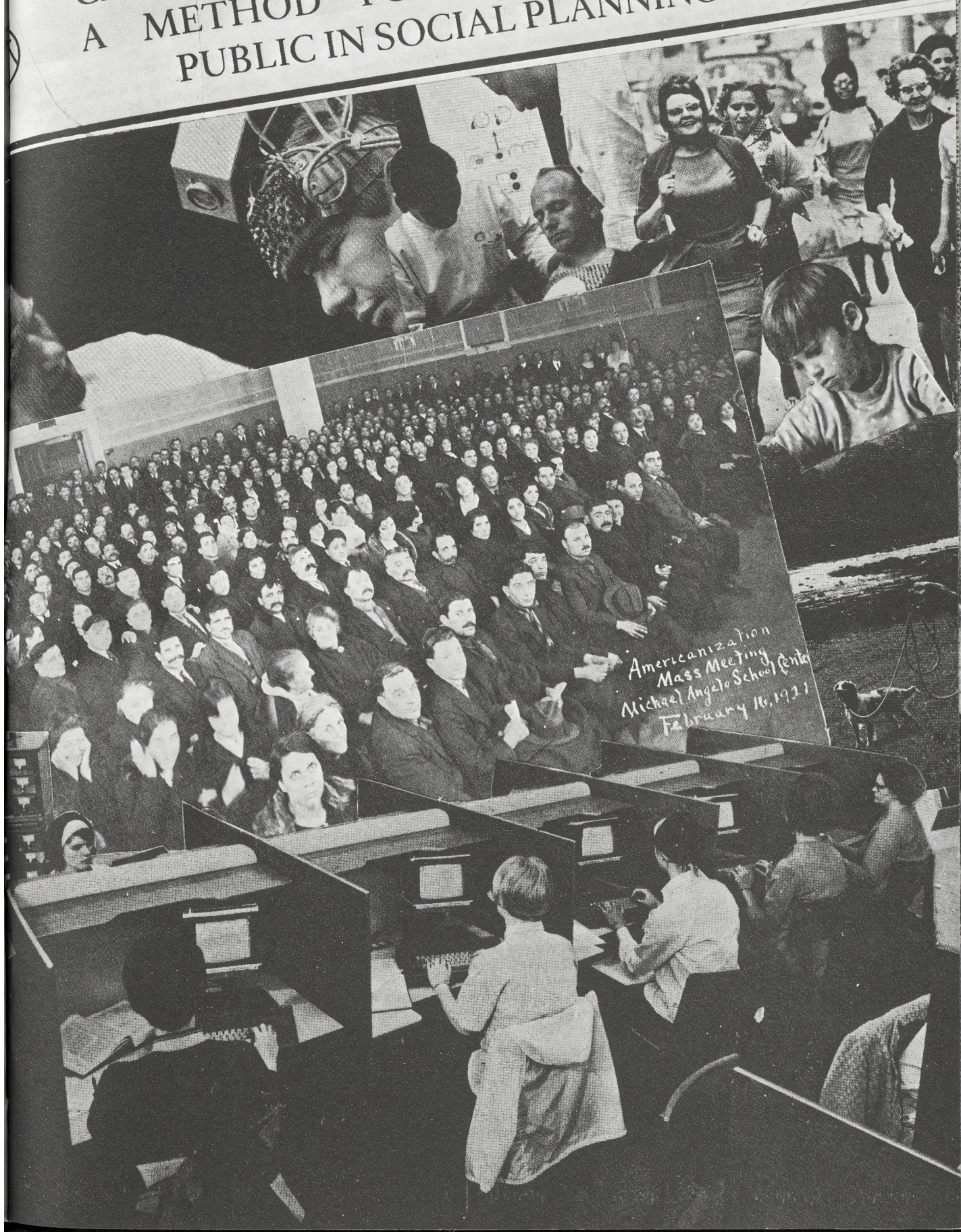
"Ben, from your look, I think I am asking too much, Show me what you have been working on today; and I'll translate it, some of the visitors who haven't had media tools to work with may recognize my words for your non-word language."

Fast-time is the time of a child when every moment holds freshening of cells regenerating by the billions. When growth is at its zenith any slightest change is amplified in proportion to the extent that it becomes a focus of the self-organizing process. Each change is a focus of change in the formation of a new tissue.

Fast-time is the day when so much happens that one wonders how so much was held within that space of time. But the one who wonders is observing in a slow-time. The rapidly growing child is the expert in growth -- until we slow him to the pace that he can match with ours enough to gain the

The growth of the planning function of government raises the question of how planning can be accomplished by democratic means. A new technological device—the teaching computer—seems to be ideally suited for discussions between “experts” and the public on issues of medium and long-range planning. The teaching computer can be thought of as a mass communications system with feedback.

CITIZEN SAMPLING SIMULATIONS: A METHOD FOR INVOLVING THE PUBLIC IN SOCIAL PLANNING



common rhythmic phasing necessary to communication.

Slow time is when time is so slow.

A year at 51,

A day while 17,

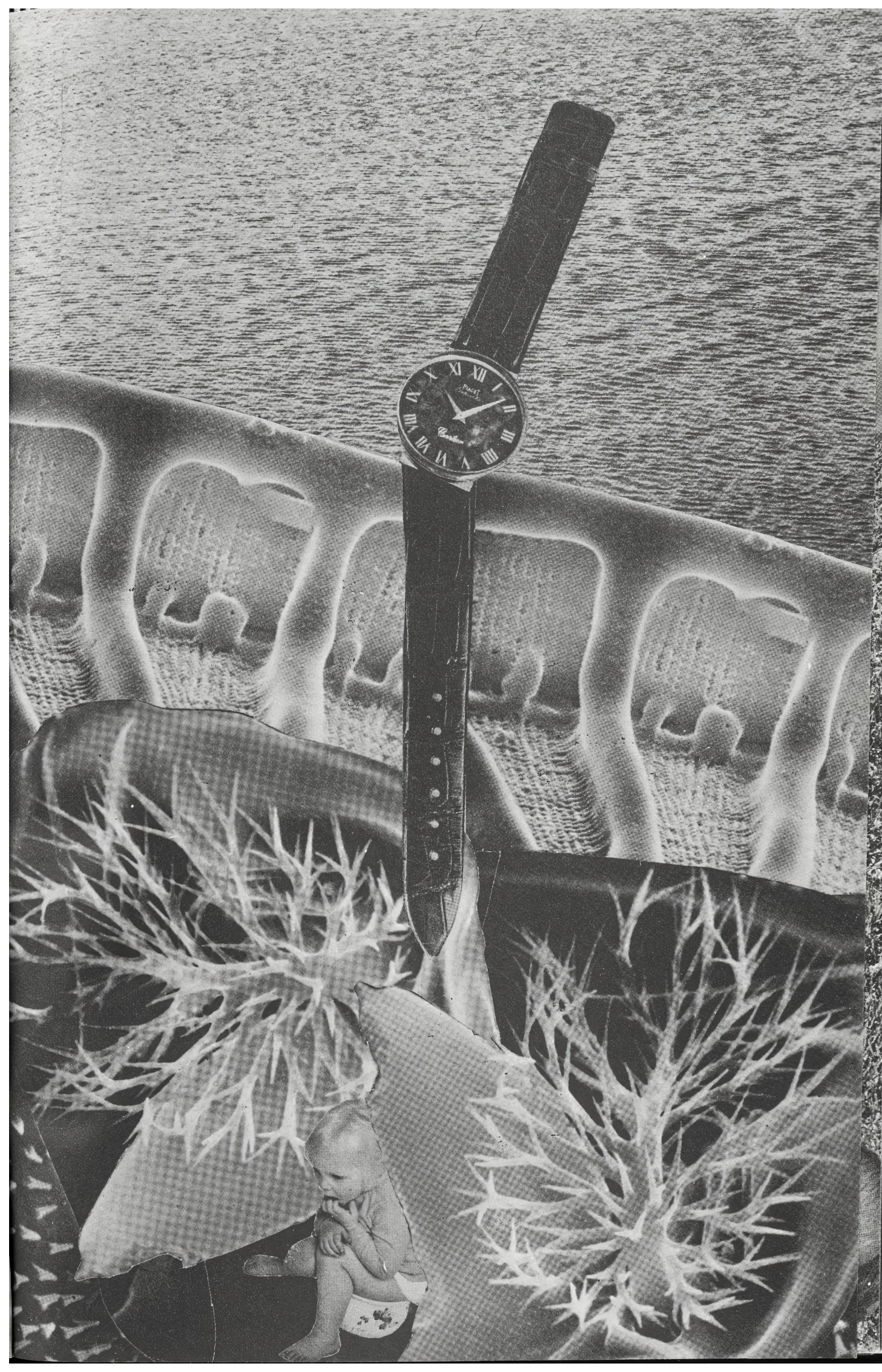
An hour when 2,

A second in embryo -- each has its own time.

Time is the amount of organizable new information which breaks the timeless continuity into what can be patterned enough to be rhythmically experienced. What can be experienced and how depends upon self-referent clocks, structural body clocks the biological rhythm of our movements, our changing size, our weight and shape. . . these create functions we call 'now'. The length of now has a span which also varies with the speed of return of orienting signals sent beyond our skins. Each species group has common attributes and these potentiate its kind of communication. The human species has time attributes yet to be determined. Knowing a species' kind of time helps us to translate the variation in its behavior to a redundant language.

The scampering shrew's time is a fast time for us to think about. But the shrew knows only its own time. Its time is a function of its size and space and its metabolic rhythms; so is ours.

EXERCISE: WATCH THE SLOW TENDRILS OF THE ANENOME BY THE RUSHING SHREW'S TIME. THE LONG ARMS OF THIS PLANTLIKE SEA ANIMAL DO NOT SEEM TO MOVE. WATCH THEM QUICKLY; NOTHING HAPPENS. WATCH THE SAME SEA BEASTIE USING SLOW TIME UNITS OF FIVE MINUTES PER BRIEF GLANCE. THE ANENOME IS VIOLENTLY WAVING. ITS ARMS



THRESH ABOUT. THEY REACH FOR FOOD. IT IS AS ALIVE AS ANY SHREW WAS. BUT YOU MUST WATCH THE SLOW-MOVING SEA ANENOME IN SUCH A WAY THAT FIVE MINUTES IS A MOMENT. NOW TRY AN ACCELERATING MOMENT. AH! YOU MUST FIND ITS RHYTHM AND MATCH IT.

A responsive grandma must watch her grandchild using different time per glance than with her daughter.

EXERCISE: IMAGINE THE TIME PICTURE OF A FAMILY GRANDMA, MOTHER, AND GRANDCHILD EACH HOLDING A DIFFERENT TIME TRADITION, AND LIVING IN A DIFFERENT BIOLOGICAL TIME MOMENT? CAN YOU AT LEAST EXPERIENCE, IF NOT LABEL THEIR RESPECTIVE WAYS OF BUILDING THE TIMING OF CRISIS OR OF CRUCIAL EVENTS?

It would be easier on all if this time information were explicit. Decoding would be easier and enriched. Children and grandparents by allowing time correction can understand each other better. A mama can encode the dinner warning so it will work, if she knows her child's kind of timing.

Explicit knowledge of the variance in time systems is important for communication between two species, between adult and child, between two children who are separated by ten years -- before and after jets. It is important to integrating a ten year plan with a day to day program.

As one develops more denominations of time, the time-coin becomes more and more spendable. To study time samples of five years duration requires the understanding of the long wave rhythms of the unit being studied. We look for long term (5 year) trends. We look for growth spurts which rhythm so as to significantly relate to the five year period. We blur day



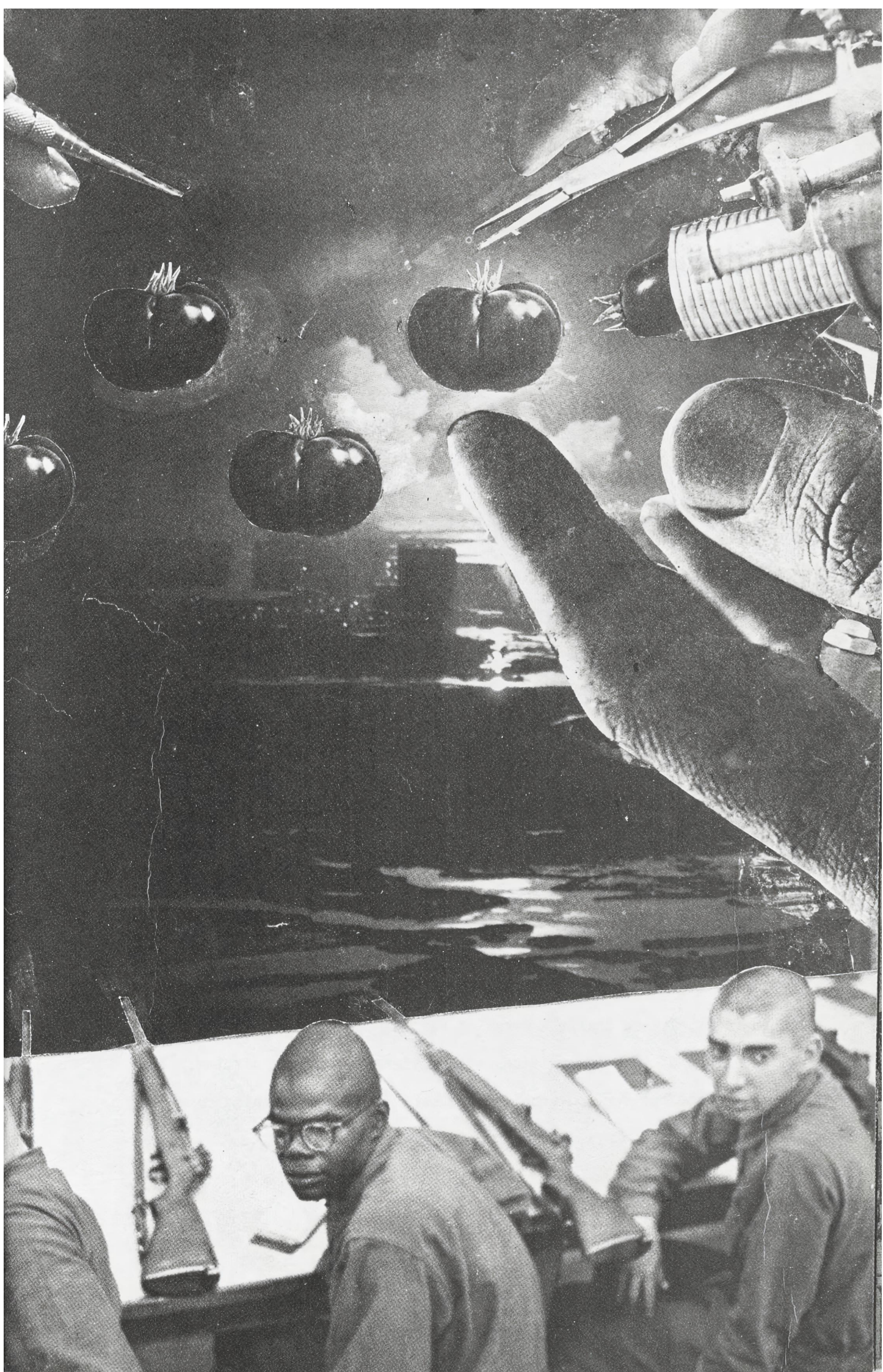
to day rhythms.

Short and long term policy have often been separated implicitly. Policy decisions used to be longer term than administrative directives. Ten year policy holds day to day exigencies, events in different perspectives than two year planning. As change accelerates the time factor in data collecting becomes more significant.

EXERCISE: IMAGINE ONE DAY TEACHERS AND ONE YEAR TEACHERS. IMAGINE DETAILED COURSES SPECIFICALLY DESIGNED TO TRAIN TEACHERS TO GUIDE THEIR PUPILS OVER TEN YEARS OF DETAILED ONE YEAR PLANNING. IMAGINE OTHER COURSES EQUALLY DETAILED -- TO TRAIN TEACHERS TO GUIDE THE STUDENT OVER A ONE DAY PLAN. THIS IS A DIVISION WHICH DIVIDES BY TIME INSTEAD OF SUBJECTS. WILL THE TWO COURSES CORRELATE? ARE THEY SIMPLY PROJECTIONS OF EACH OTHER? HOW WOULD YOU DIFFERENTIATE THESE COURSES? HOW WOULD YOU BUILD TWO PROGRAMS RESPONSIVE TO YEARLY AND DAILY RHYTHMS OF THE CHILD? DO WE DO THAT NOW? EXPLICITLY? CONTRAST TIME PLANNING FOR THE ADOLESCENT AND THE AGED? HOW WOULD THIS EFFECT THE OPTIMAL TIMING OF CHANGE IN THEIR ENVIRONMENT? WILL THIS HELP OLD PEOPLE TO MAINTAIN CONTACT WITH THEIR PRESENT.

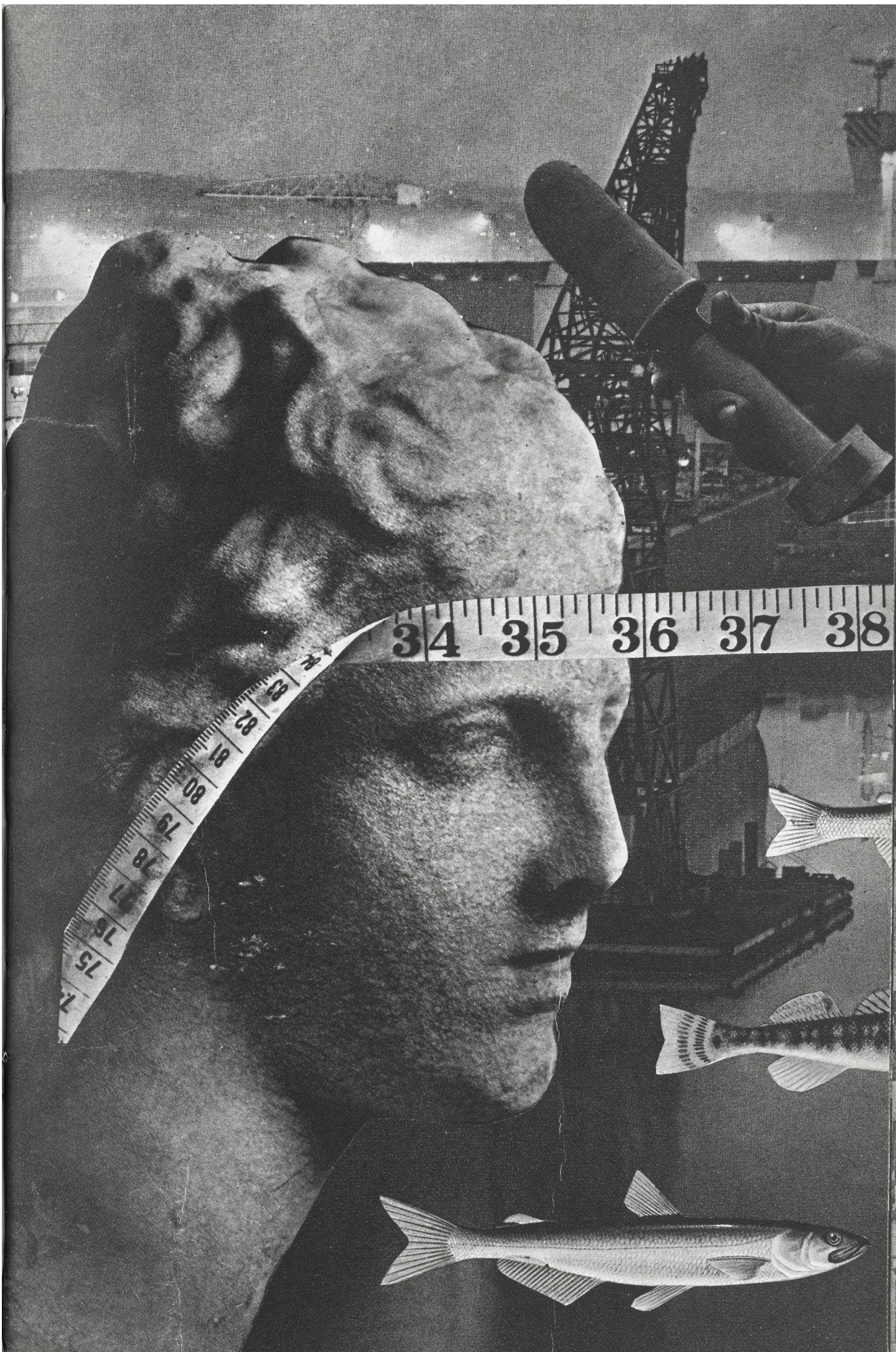
As I glance out of the window and see a building emerging from wooden forms, I know that the planning has been done by persons involved by the nature of their professions with different segments of time. The carpenter, the builder and architect of each trade are oriented to a particular periodicity.

In the new realm clothes sewn for short term and long term obsoles-



cence are explicitly marked. This is balanced by a notation of wear out and boredom time, of growth and movement expectation in different age groups. A family to buy economically, must know its own wearing patterns. These patterns are passed on across the generations: four pairs of shoes lasting one quarter as long as two expensive pairs sets a four/four rhythm in the home. The two/four time of the more expensive purchase may set apart a different social class. This is a rhythm that pay checks cannot fully account for, though pay checks set to two/four rhythms are a great inconvenience to a four/four family even when larger. The feedback which would describe the complex of a family's economics is not yet explicit information. We do know there is observable variation in time sampling from one social group to another. This rhythm is well known to manufacturers. They purchase so as to catch major critical points between too much and too little stock on hand for a particular region in a particular economic season. A razor blade that lasts too long does not relate to the family's shopping rhythm. The lifetime of a product must be planned in terms of its customer's time sampling habits.

Would it seem strange to have one institution involved with long-term health of our population and another involved with a short-term health program? In some countries, doctors are differently trained depending on the time sampling expected. The public health officer is trained and valued by his community in relation to a longer span of time than other physicians. The surgeon has a shorter time perspective than the community health consultant. Our new denomination would make the surgeon and the public health officers different in a way that has the same shape as the difference between the officers for short and long term loans. Naming these isomorphs (similar shapes) provides most people with a feeling that what they have long known and used is finally in words. This is a practical



matter when one must program a machine to operate on long or short term returns.

At your bank there is a long term loan officer and a short term loan officer. These two operations have in common that they both involve the lending of money. The long term loans depend upon an investments potential for growth. Short term loans depend upon present security. Skillful evaluation of these two kinds of loans requires different data and data processing. As computers help even more to determine the odds of a good return, these two kinds of banking (and decision making) will become more separate. Now it is intuitively managed by choosing different kinds of loan officers.

So what?

An office in the U.S. Cabinet for a Minister of Human Enhancement seems appropriate only when long glances of fifty years or a hundred years are the units of observation. This man would have as his responsibility taking those measures useful to avoiding extermination of our species. He would be a conservationist. This requires a different kind of man than one who will save a few men today on the eve of election.

Likewise, the capacity to translate from one time sampling to another seems valuable if we are to explore the world that exists beyond the constraints which restrict what we consider to be "natural" human experience.

Our new coin does not conceive of time as duration of travel between fixed points of a given distance. I t i s n o t l i n e a r.



Drinking causing drinking, heat causing heat in oily rags, tension causing tension -- these are self-generating spirals, self-organizing systems growing, living, swelling, but we accommodate so readily to constants, it is the swelling growth of a crescendo, the break, the discontinuity, that marks the nodal point that makes patterned experiencing possible. The bamboo sprig is broken. Growth the common feature of all living creatures, holds human interest. Experiments with artificially induced constancy and boredom indicate that they can destroy human life. Those experiments called sensory deprivation suggest that change is as necessary a food as time itself.

Adventure with time control. Vast amounts of data become available when we regard time as a variable and denominate time process. Complex novelties become important, simple and common.

The time telescope slow motion films watch the opening of a flower revealing a rhythm which has not existed to the eye untutored to the denomination of time. The time microscope, the high speed computer catches microframes built from electric pictures and samples the unfolding of the micro-age not apparent without such time devices. Much of the data that you thought an intuition is short or long time sample observation sampled differently than the conventional moments.

Intuition is for creating newness and not for maintaining formal traditions of what one is not supposed to know. If a child's time is so different from a grown-up's time, why not declare the difference? Write about it. Refine such basic knowledge to a greater knowledge. Make it grow. Everyone knows the secret -- or they could not bring up children; but as long as this knowledge is not formally declared the development of an educational science is constrained.



All denominations are a function of our capacity to perceive. We cannot name into units what we do not know to exist.

Each time is by definition, and when one realizes definitions can be changed to one's purpose, a new world opens. The child is now taught to add, subtract, and multiply using a number system base seven, base three, as well as the usual base ten; he understands base ten as one possibility.

Time must be similarly taught, not only base solar system, but also base human species, base geological time, base shrew's time, base Sunday supplement and base Russian Five Year plan.

Fast time. . . slow time. . . circular time. . . spiral time. . . growth time. . . A thousand different kinds of real time can be measured once time is no longer considered a god-given constant.

Time is man's own invention to be used for his own changing purpose.



CHAPTER FIVE: IF TIME IS BROADENED, CAUSALITY DROPS OUT, AND
CONSEQUENCE DEVELOPS

The dog pee'd an eternal river on the rug.

"Soda water is best to clean it," called the well-trained guest.

I brought soda and water, soda powder and a glass of warm water.
Warm water on the rug then just a sprinkle of soda -- no, it needs more
soda -- just a little more water, dilution you know. What a stain!

From the dog's pee?

Yes and no.

Causality: the urine could not have done it, but the combination
of urine and soda was followed by a yellowing stain to the rug.

The dog did it.

No, the pee did it.

No, the rug did it.

Next, I did it.

No. But it was foolish to bring soda instead of soda water. Imagine
my wife saying to new guests,

"He, (pointing to me) stained the rug."

Why, I am housetrained. She did it. She bought it. If we had a
nylon rug it would not have stained, so the rug caused it.

No, the floor did and so ad nauseum.

Define your system, don't swim in it!

Causality is always a retrospective statement of a linear direction.

*I hear beyond the range of sound,
I see beyond the range of sight,
New earths and skies and seas around,
And in my day the sun doth pale his light.*

— Thoreau



That without which it would not have happened is considered the final cause. No rug, no stain, the relativist says. Hit the soda, Pop.

The cause of tuberculosis is tubercle bacillus. That is simple. It was settled in the 19th century. The convention carried useful information for that time.

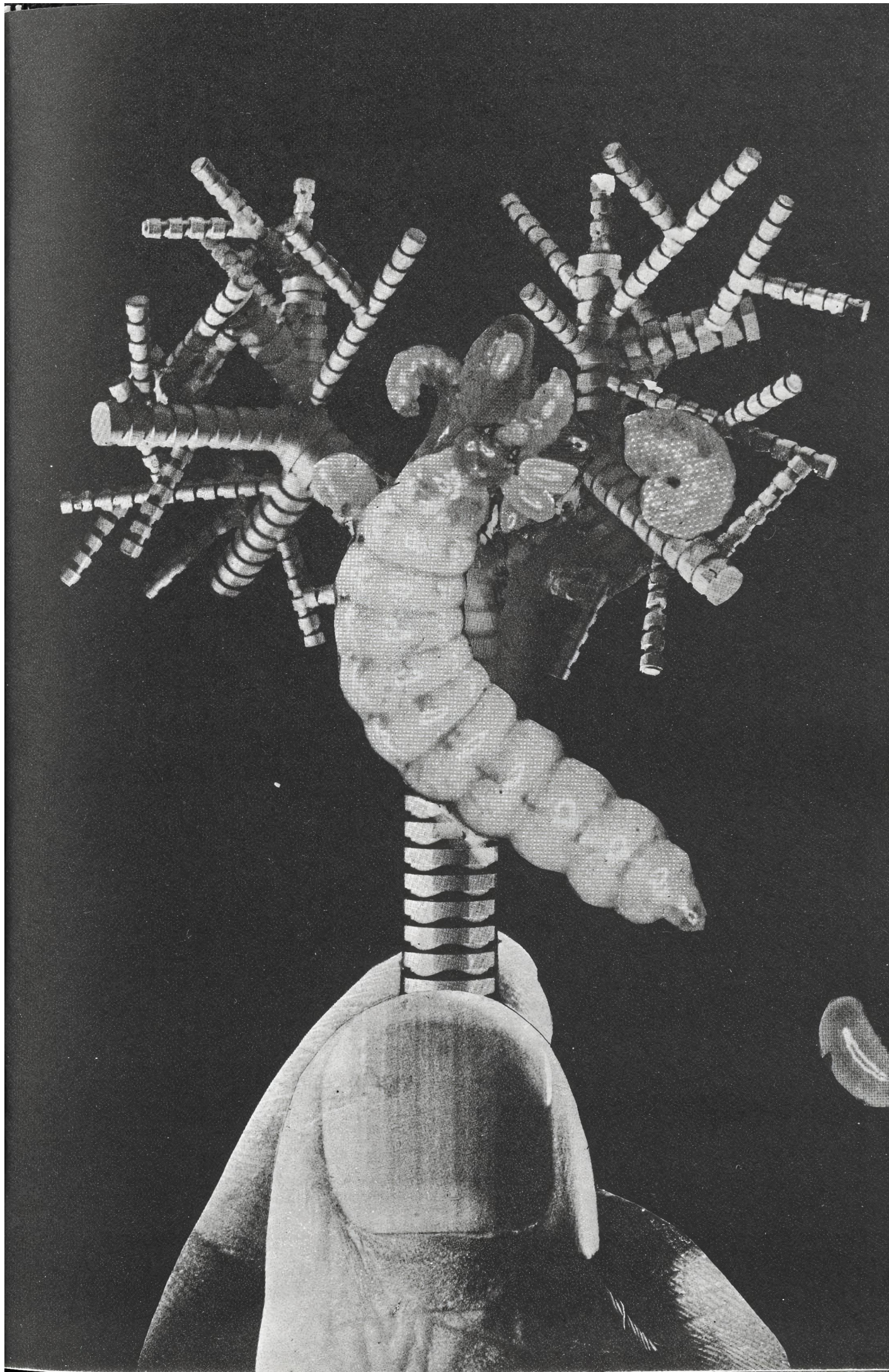
The germ era defined which-germ-done-which-to-what and demolished the "spontaneous generation" of premicrobe days. The thoughtful Dr. Koch worked on this problem. He did not say that the germ caused the disease; he set a convention that the specificity of a microorganism (to a disease) is not demonstrated without the fulfillment of the following:

1. the microorganism is present and discoverable in every case of the disease;
2. it is to be cultivated in pure culture;
3. inoculation from such a culture must reproduce the disease in susceptible animals;
4. it must be reobtained from such animals and again grown in pure culture.

Koch's law was a useful one when the tuberculosis germ was newly discovered, but like all abstractions it emphasised a particular way of cutting a line across the phenomena in order to highlight the newness he presented. But you public health moderns will say,

"Germs, yes, but tuberculosis is caused by bad housing, malnutrition, fatigue, hopelessness. The germ is always present, poor health allows it to disease us."

Is this another point of view, to be asserted in a different context?



No! All of these are part of the same spiral.

If we add malnutrition (M), germ (G), and disease (D) where are we now? We have added to our conceptual system a new complication.

"Don't mix them together, they'll multiply" the shrivelled librarian yells.

Why not? Let's add two more, emotional stress (E), population explosion increasing proximity (X): Then, using a computer as the oven, let us bake these ingredients into a life situation. Old conventions soon fail us.

Why make life more complicated than it is? Everyone knows tuberculosis is caused primarily by tubercle bacillus; there are secondary causes. We older ones take things like that for granted.

Let's not.

To instruct the computer you must make explicit what you take for granted. You are not interested in technology? You have no choice! You must keep up with your machines to control them or the vacuum will be filled by less benevolent action.

If you multiply 10 to 15 factors like housing, fresh air, constitutional endowment, germs, etc., you come to a new level of abstraction -- growth. There is fresh perspective in this new simplicity.

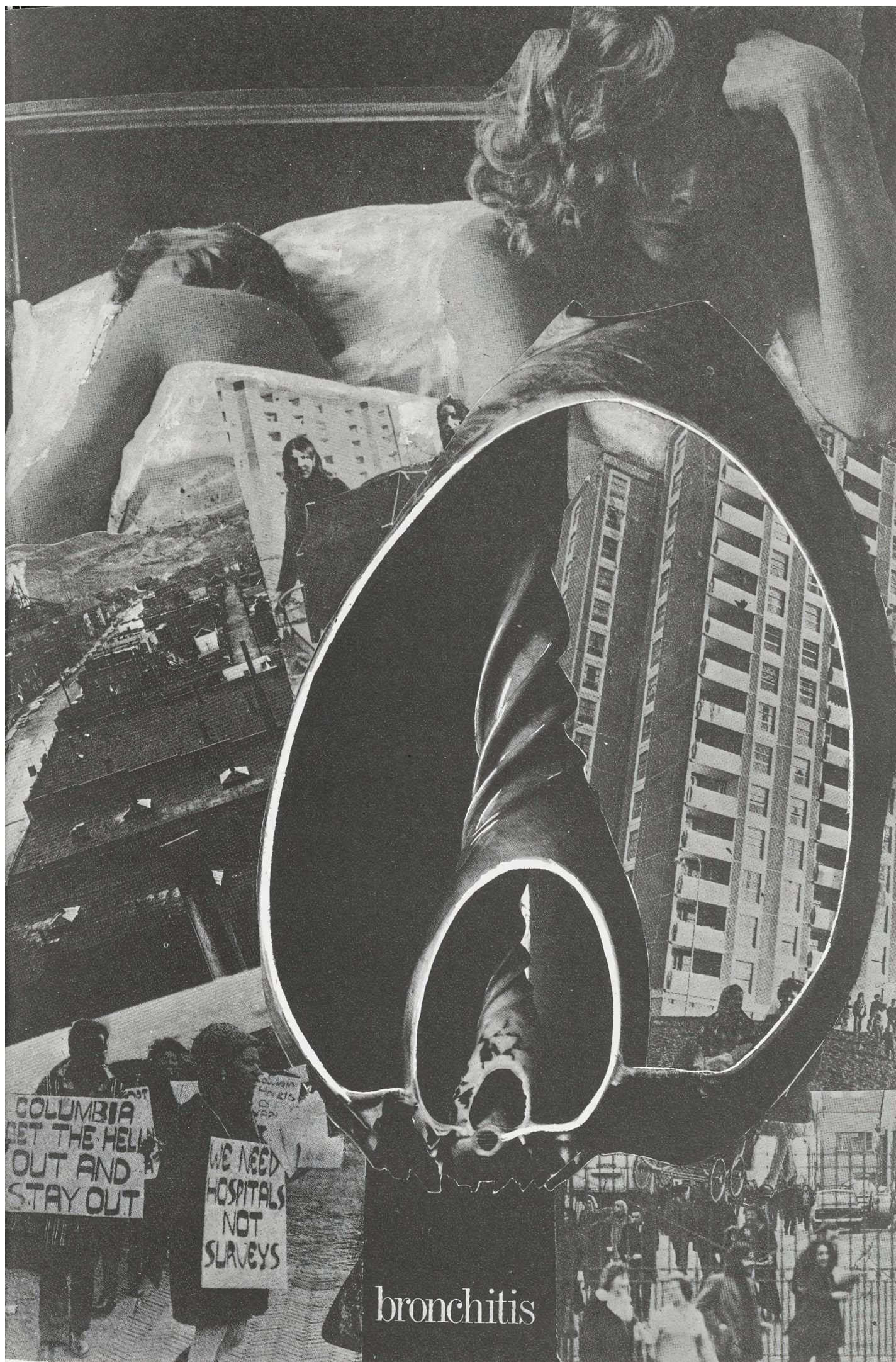
Malnutrition

poor housing

tubercle bacillus

depression

bad air



bronchitis

TIME PROBLEM: GROWING SICKNESS. . .

BEING SICK. . .

MAKES ONE
MORE EASILY
MORE SICK

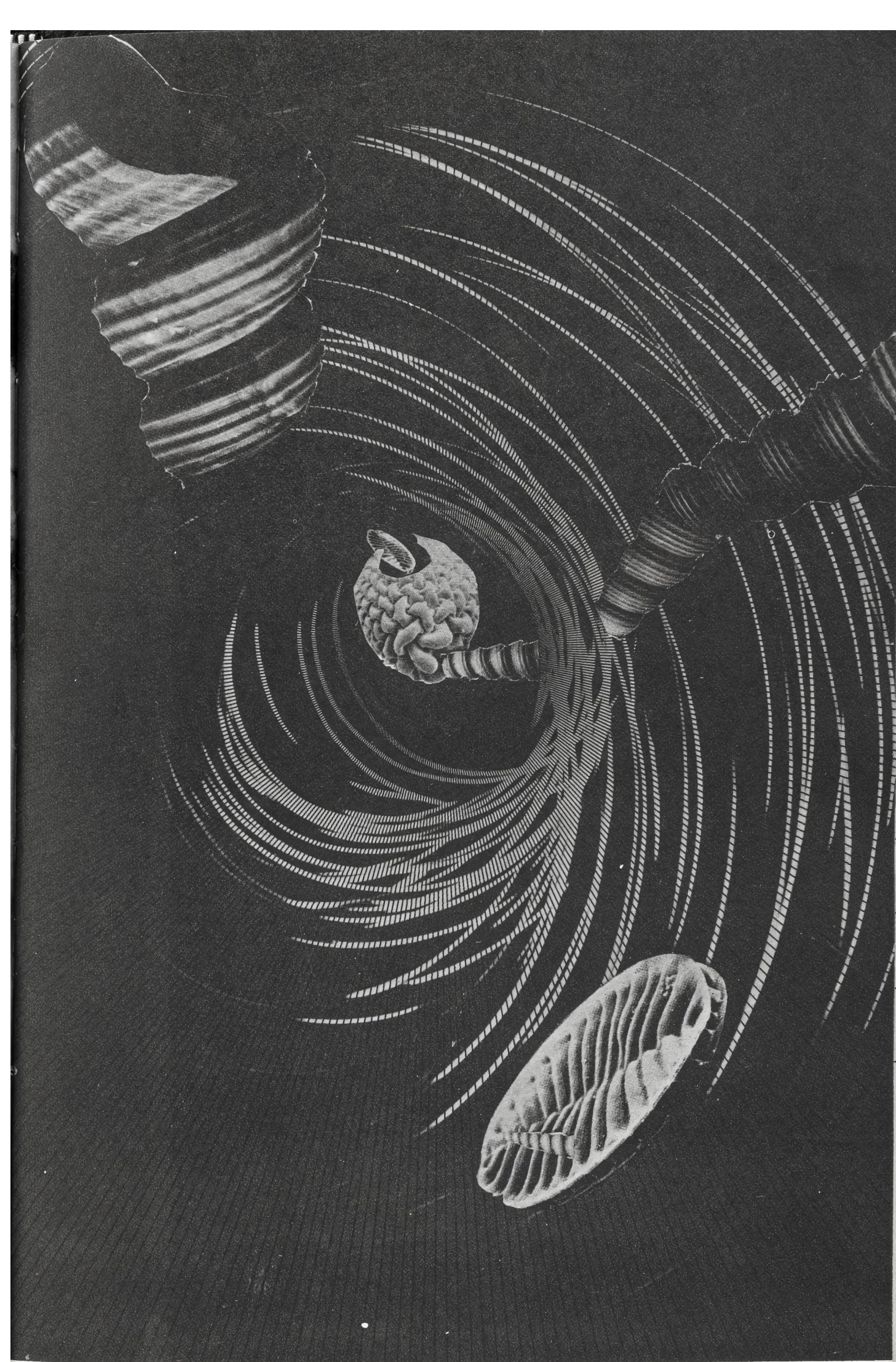
All the above factors, M,G,D,E,X. . . to a long finite series, can develop in phase to rhyme like a poet building crescendo. Rapid growth. A small wind in phase with a bridge's swing -- Smash! This is more than a listing of puffs. Consequences grow from their parallel timing.

Who can work well enough to gain a good living and buy good food if he is malnourished? Misery multiplies. . .

It's harder to think when you get past a certain point of hunger. If you look thin, who will enjoy you? No money. . . hungry. . . feeling depressed. . . who has energy to make money, to work well enough to gain a good living. . . to get out of the hunger. They multiply each other. This whirlpool is well known. It's the skid down Skid Row. It's the same skid we use to get across the can't-get-a-job-without-experience-or-experience-without-a-job-paradox.

If all the factors get into phase and if each error or success catalyzes more -- as on a bad day -- you build a chain reaction accelerating in one direction or another. Diseases do make resistance lower. Health improves one's ability to do healthy things. Disease and health grow. They are in flux.

Everyone is aware that the man who has TB is more liable to get



worse tuberculosis than someone who is healthy.

Disease causes disease!

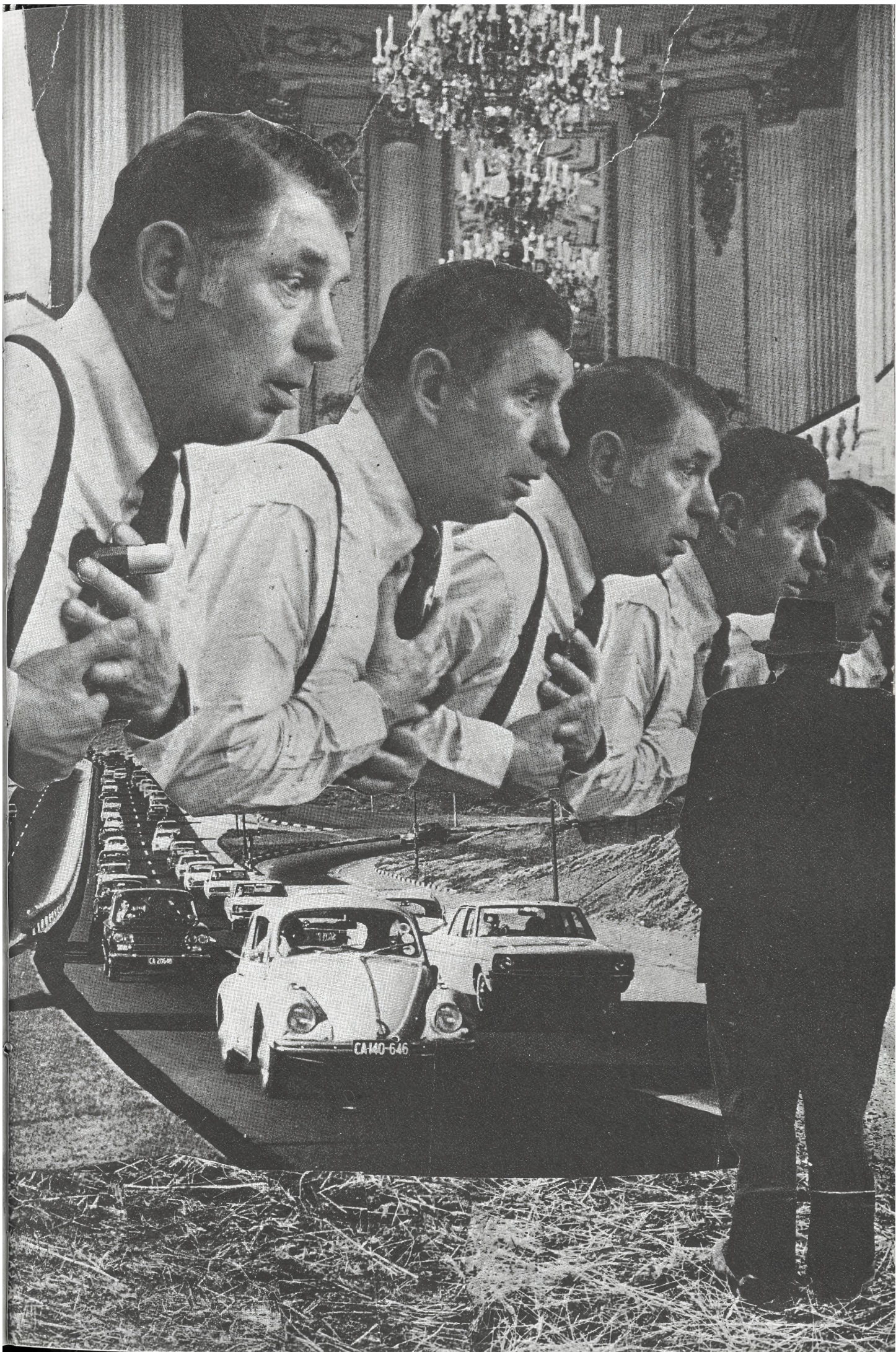
Am I going back to spontaneous generation when disease just happened without any explanation -- like spontaneous combustion?

No!

We are not going in empty circles unless time is left out, or turned into a thin line. Day-to-day is time, cough-to-cough-to-cough is time till you can hardly take in air without losing blood. Symbols can repeat -- coughs don't. They are not print. Cough produces cough into a rhythm is everyone's experience. They involve your whole body -- and everybody's body around you.

Disease producing disease is not the same as disease out of nowhere. If disease produced disease means it came from nowhere, we are back to medieval times and must explain with hobgoblins. The time axis of our spiral is important. It cannot be left implicit. It must be written down -- described. What forms seem natural to you? I begin with finding many analogues, then an image develops that includes them all. The image finally is condemned to a symbol. What is your time vocabulary like?

The time factor has a modern rhythm. If those electrons really get fired up as they burst away at each other they can build up enough speed to knock off a proton with the release of energy which increases the bombarding until. . . well, it's like a chain letter. One gets two, get 4, 8, 16, 32, 64, 128, 256, 612, 1224, 2448, 4896, 9792, 19,584, 39,168, 78,336, 156,672, 313,344, 626,688, 1,273,376, 2,564,752, 5,093,504, 10,187,008. . . siren. . . put in the lead absorbers. . . calibrate the



growth or the atomic generator will degenerate with one big bang. And you?

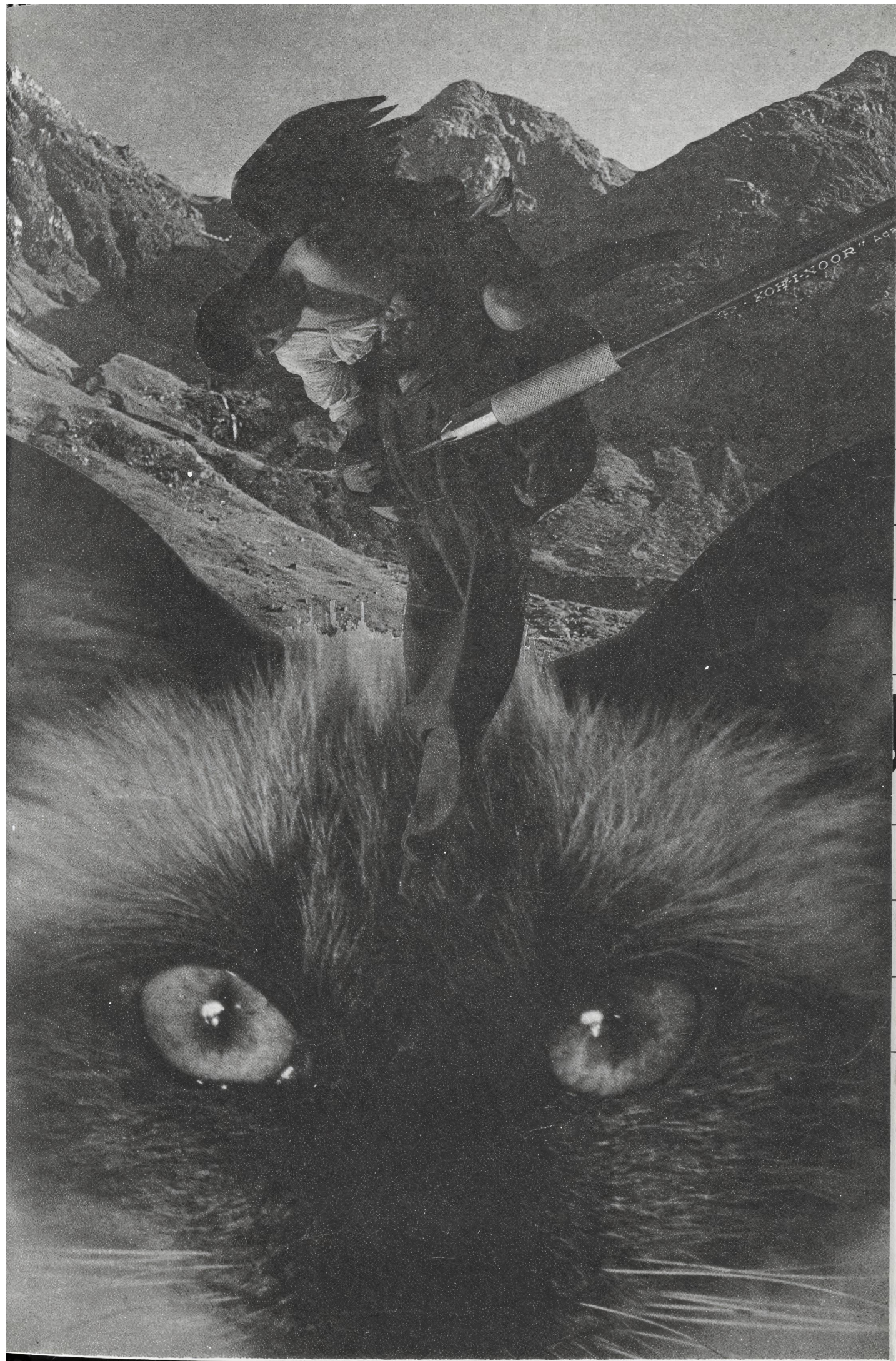
The calibration of growth is necessary to gain control of change.

Call the bang one critical or nodal point. This critical point is a point of unaccommodated change that patterns the rhythm so that it is perceptible as information. For every system there is a set of critical points -- points of change. The rhythms that have been studied are those that grossly change the pattern. Something going faster and faster bursts into a new system. This reaches our awareness. We may rerhythm it to a new pace. We may simply change what we are doing. Tiredness normally acts as a governor when we spin too fast. Tiredness denied, the old system breaks. No longer a governor uncontrolled by the effect of its speed up, the flywheel is now pieces of metal flying. . . or a civilization progressed to disaster. . . or a money man making a fortune.

Death has been the only well-known nodal point of the wheel of life. Medicine now documents life's rhythms during sickness. What are the rhythms that characterize our species? Actuaries working for insurance companies seek to know the human rhythms so they can bet without losing.

Rhythms within a single person, the ebb and flow of pulses, the changing tides and concentrations of salt in our fluid and the brain waves can be mixed as one flow together. The flow patterns discovered are abstracted. Any old phenomena can be patterned as a flow if this is the choice of the observer. This only seems abstract. Have a little beer folks. . . take a rest in your local bar.

Watch two people in the bar bombolading. Joe bristles



at Jim's remark, Jim flips a dig at the end of what he said to show Joe that Joe's bristling didn't scare him, but Joe sees the dig as more insult. Now watch the bouncing, building bombolade. Watch a proton fly off. The contrapuntal echoing of two choruses, Joe and Jim, nave and apse, are melded by the build of their reverberations amplified by the silent barroom's now expectant exaltation. The register chimes . . . Splendid, thrilling. . . The thrill of two in mortal contact. A filthy knifing.

Joe and Jim in one battle.

There is a rhythm to the battle and to the lowering and heightening of the accelerative process. A riot develops like an explosion. The bartender feels the air crackling and calls police reinforcements. Too late.

Knives flash.

Joe has the chest wound. His old tuberculosis flares. It's war had reached a stalemate; but with the wound his resistance is lowered, it spreads. Joe's heart can't take the extra strain the tuberculosis brings. Joe had a coronary long ago, but was too poor to reach the doctor. After that angina - pain with slight exertion. So much pain was depressing. For pain - drink!

It was the only way he could stay at work.

There is a rhythm to it all. Joe's stab wound becomes a nodal point, he has a rest, his chronic TB is activated and treated. His angina is relieved by proper medication. As his chest clears his heart is less loaded. He is helped to find a job. When he leaves the hospital his depression

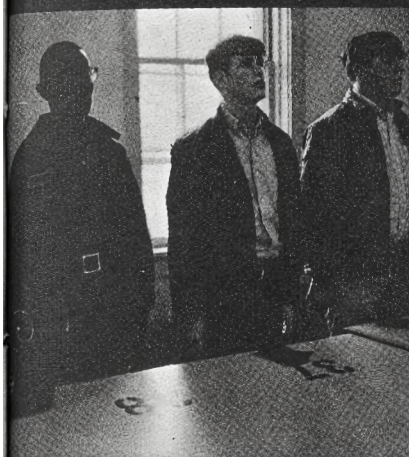
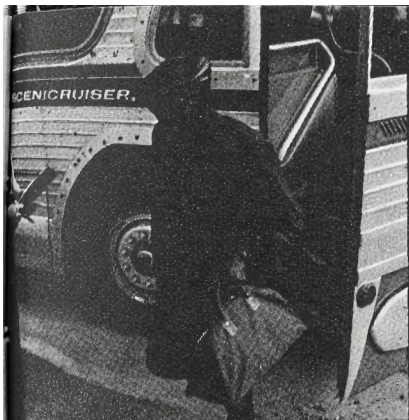


does not beget depression. His fortunes are reversed. Joe's whirlpool no longer drags him toward death. He is in fact more alive now than before his stab wound. Being severely stabbed caused him to get beyond going to bars and being stabbed. The rhythm is no longer in crescendo. At last, the tension is off and the sun shines through. Joe bursts into blossom.

Can you catch the theme? Do you have words to impart to your children of your own everyday capacity to catch the rhythm of a situation, to know how fast it is building to crescendo, how high it will be before it explodes at a nodal point into bits and pieces? When is the build-up switching past the point of return to a previous stable state? When do habits become immune to innovation? You feel the moment when you can interfere with neighbors' quarrels or quarrels between your children. You sense the resistance you will meet. You judge how much you wish to be like those lead bars descending into the uranium reactor tonight. Damp the reaction by going to a movie. No. It's getting too late -- the acceleration is accelerating -- the children run more rapidly with every new pace. The house is jumping. Its acceleration grows. . . jump out of the reactor. . . or push it to a crisis before it is ready to explode.

The growth need not be toward destruction. For the young child, each word shared, when it has meaning, brings new interest and skill at learning words; the vocabulary increases more and more rapidly. If you catch the child's rhythm, you can teach him much more, he will play with your rhythm too.

So what!



Nonsense! Who cares about the rhythm of real events?

I do!

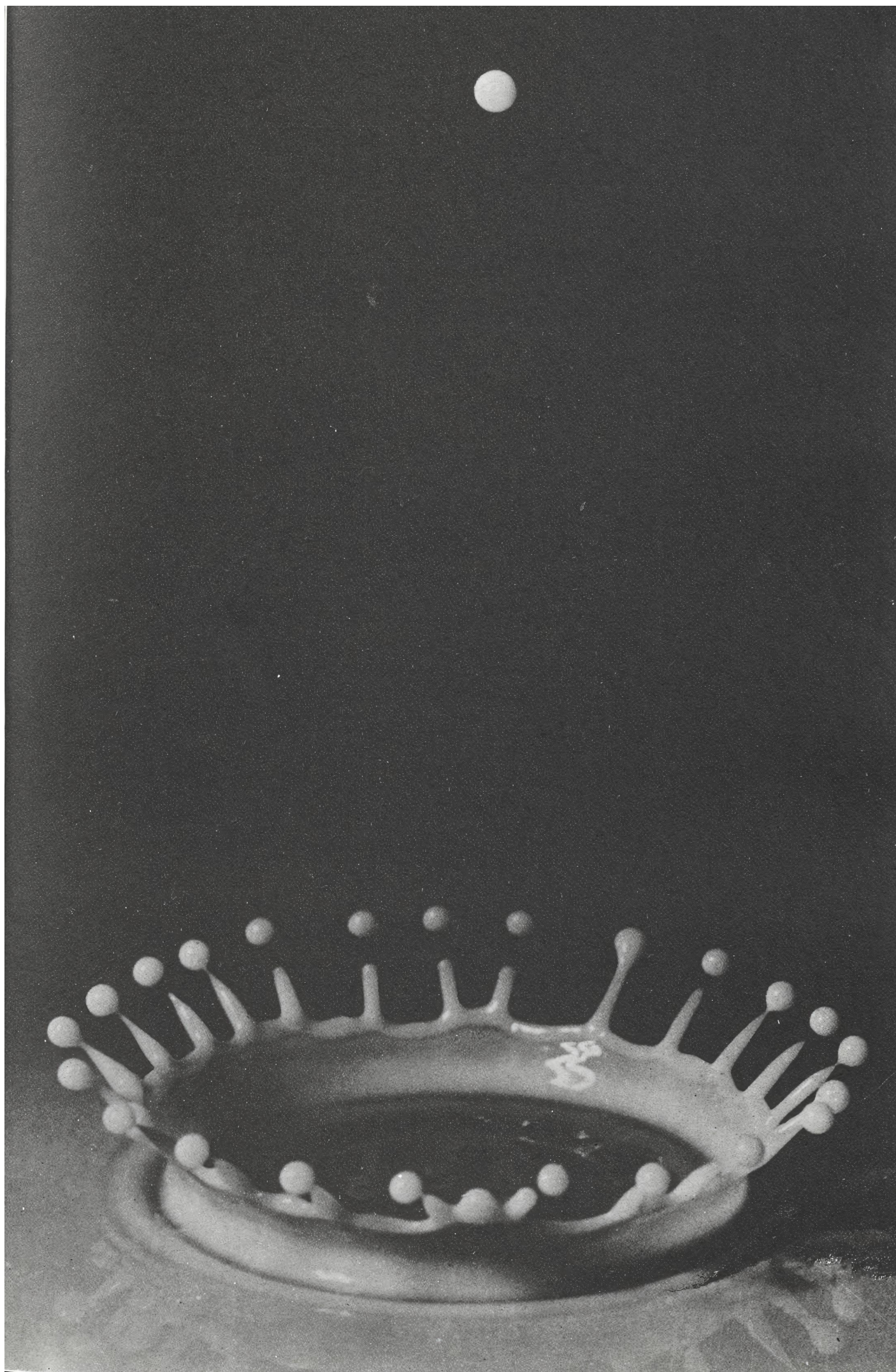
How else am I to know if little Jim or Joe is learning rapidly? He knows many words today. But he may have learned them yesterday. What is his curve of learning?

Jim is five feet high! A fact, yes, but if he was four feet yesterday, his five feet today is not the same. Rate of change in rate of growth is a measurement intuitively respected but formally neglected.

High or low is important. Bench marks on the nursery wall tell of final height at one or several single moments in time. The point of highness in music can be unusual and pierce our ears. A child can be so tall he should join a special club --

true, but a change in the rate or speed at which growth was made is important to measure as every mother knows. Have you ever seen tables that say how fast a child should be growing? They are different from the historical table -- how many inches he should have grown in a specified time. The new scale starts by classifying the child into a group with similar growth rhythms. Then it predicts the sequence of changes in rate of growth from large sample averages.

Once music was constructed on an eight point scale. Does the music of the streets go "DO RE ME?" No! Such regular intervals are man-made, un-usual. The wind as it rises to a piercing shriek does not rise by constant intervals. Some ears -- once trained to the system may tune in only eight points. To them -- the wind is not music. Remember. . . the straight line is a man-made oddity -- a special case we have historically conventionalized as simple. It's man's way of recognizing his own



houses but it is less useful in abstracting his nature. Horizon and plumb line form the original cross on which man crucified himself.

Do you think in terms of static points?

. . . or in reference lines?

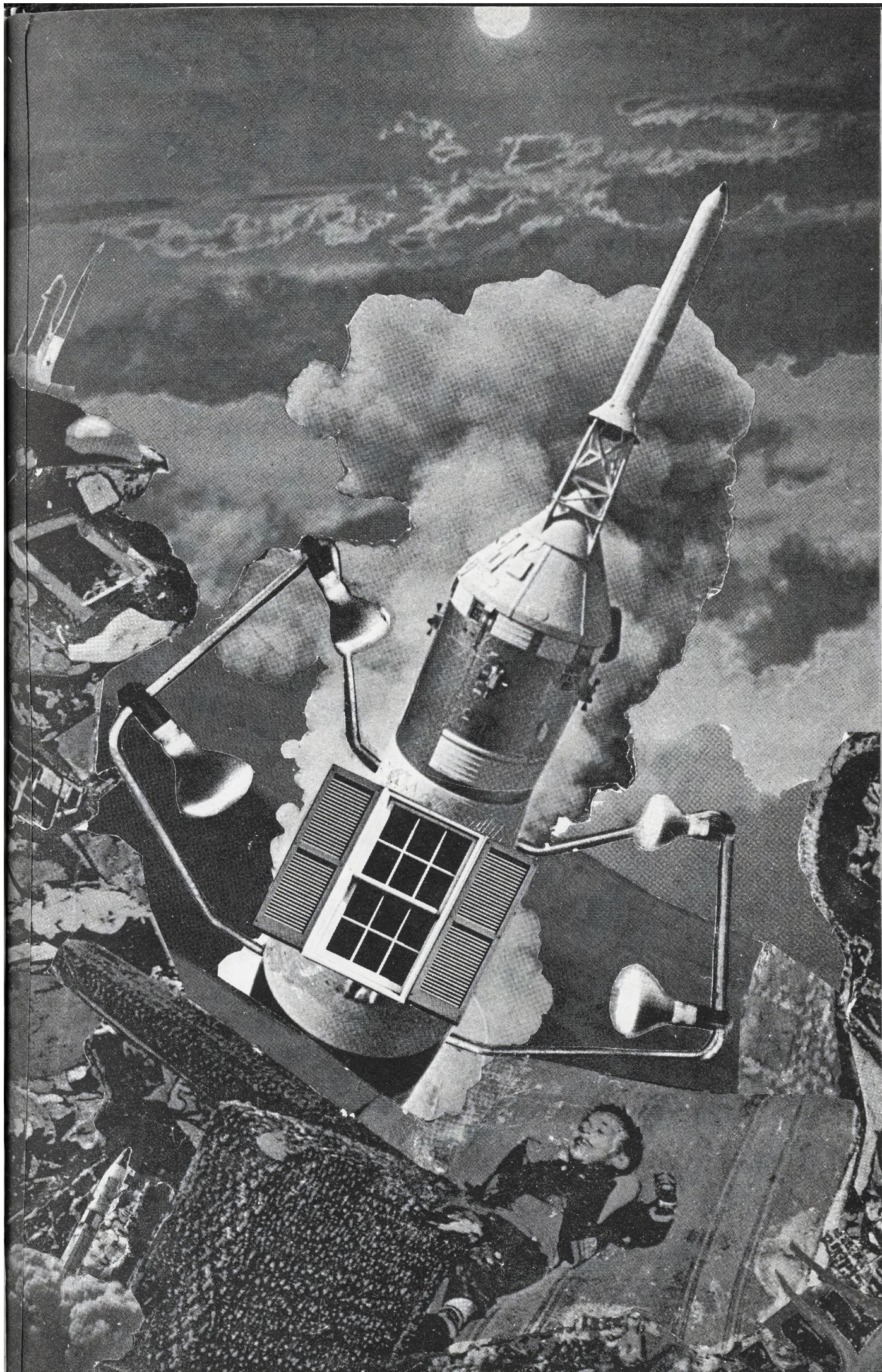
. . . or n-dimensional grids?

Why he's five feet tall, how nice! I remember I was five feet tall, too, when I was ten years old. Oh, so nice to be five feet tall, has he been growing rapidly? Faster and faster, eh? When I was nine I began to grow very rapidly. I hardly knew how to use my body, it changed so much from week to week. Why, my mother let out my trousers constantly. Acceleration in rate of growth is no real secret. But scientists don't worry as much about it as manufacturers do! During the cheap-clothes period, clothes are never worn out, just grown out of, so they advertise appearance, not durability. Imagine, his size zipped up the scale during his twelfth and thirteenth years with increasing rapidity until he reached 6'3", and then it stopped. Sure, that's tall, but the rate of growing one foot in six months is important. There is a rhythm in growth that has been neglected. Imagine teaching children using their own growth as their reference unit for measure.

Change in rate of change in any phenomenon is worthwhile adding to its description.

TIME PROBLEM: PROSPERITY BREEDS PROSPERITY.

COUNTRY A PROTECTS ITSELF AGAINST COUNTRY B, WHICH BUILDS MORE BOMBS TO PROTECT ITSELF AGAINST A WITH, AND A BUILDS MORE BOMBS TO PROTECT ITSELF FROM THE GROWING STRENGTH OF B. . . TO



CATCH UP WITH A. . . A TO CATCH UP WITH B. . . RHYTHMIC OSCILLATION. . . LISTEN TO THE RHYTHM OF THE MOMENTARY THINKERS UNWITTINGLY DANCING THEIR DANCE OF DEATH. . . SO MUCH OF THE PEOPLES' MONEY IS IN BOMBS. . . . EACH THINKING THAT THE TUNE THEY DANCE TO, IS THE OTHER'S. IT'S LIKE A HOLY ROLLERS' MEETING. . . THE EXCITEMENT BUILDS. . . JIM AND JOE KNIVES FLY. IT'S LIKE VOMITING. . . FIRST THE BUILD UP. CAN YOU TRANSCEND THE MOMENT, THE CAUSE-POINT SYSTEM? LISTEN TO THE A AND B DANCE. CAN YOU HEAR THE CRESCENDO OF THE DANCE? CAN YOU CATCH THE RATE OF CHANGE OF RHYTHM? OR ARE YOU TOO BUSY DUCKING OR MANUFACTURING HAND GRENADES TO PROTECT AGAINST THEM AS THEY PROTECT AGAINST YOU? YOU ARE GROWING TALLER EVEN AS YOU FIGHT. CATCH AN IRRELEVANCE TO HELP YOU GAIN PERSPECTIVE, IF YOU WANT TO SEE THE DANCE AND DECIDE WHETHER YOU WANT TO STAY IN IT, OR HOW TO GET OUT.

INTERVENTION IS LIKE CATCHING THE MAN BEING DRAGGED INTO THE WHIRLPOOL -- HEROIC NEAR THE VORTEX. AND COUNTRY A AND B BOTH ARE UNAWARE THAT THEY SHARE THE SAME WHIRLPOOL LIKE THE MASTEDONS AND DINASSAURS THE SLOWER MUD.

THE INTERVENTION NECESSARY IS INVERSELY PROPORTIONAL TO THE INCREASING RATE OF CHANGE IN ACCELERATION. SUDDEN CHANGE MAY SIGNAL WARNING; GRADUAL CHANGE MAY BE ACCOMODATED. THERE IS A PACE THAT IS LIKELY TO BE LETHAL -- SUDDENLY TOO LATE. SO TOO WITH HEART DISEASE. AS THE HEART PUTS OUT LESS BLOOD TO THE MUSCLES OF THE BODY, THE HEART WALL MUSCLES TOO ARE LESS AMPLY SUPPLIED, AND THE HEART, BEING LESS SUPPLIED WITH BLOOD, PUTS OUT LESS BLOOD. IT IS THE ACCELERATION AND



ITS CHANGES THAT COUNT. WHY DON'T WE COUNT IT? ARE THE BOMBS OF A AND B TO BE ADDED OR MULTIPLIED.

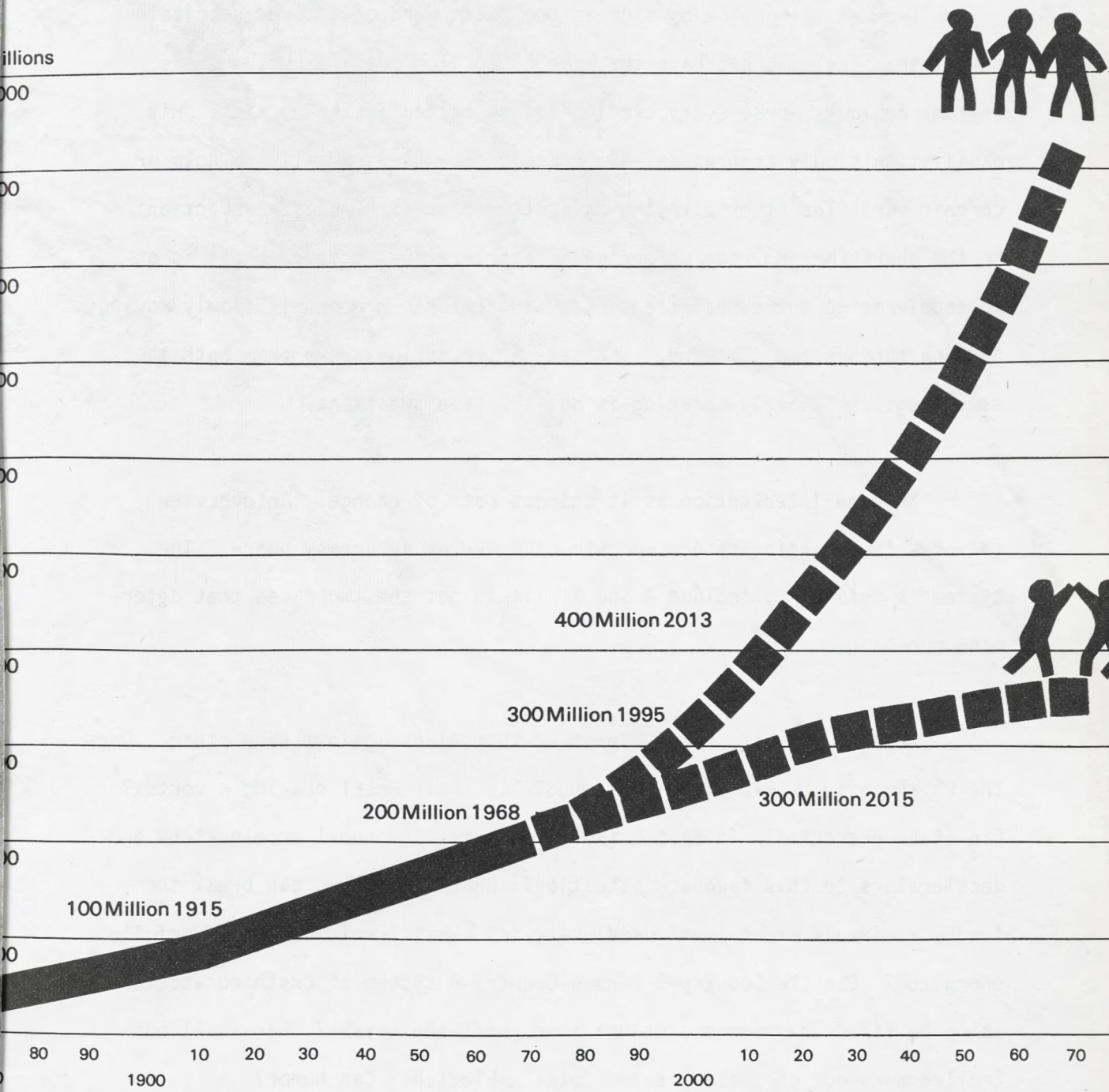
Two men lying side by side in the heart ward of a large hospital may at the single moment have the same blood flow measurements. One's rhythm: he looks worse every evening but is better in the morning. His oscillation slowly progresses -- a chronic case they say, like a cold or chronic war. The other's rhythm is acute: he needs heroic intervention! On the chart showing rate of change in accelerating, acute process is on an accelerating curve near the vortex, and chronic process is slowly moving, padding through the flatland. The same intervention, give them both the same drugs, relatively speaking is not the same treatment.

Measure intervention as it changes rate of change. An overview measures the changing rate of growth of a war or an uneasy peace. The system is defined to include A and B. It is not the two faces that determine our coin.

Repeat. Country A and B protect themselves against each other. Does the rhythm rise to explosive crescendo? Is their whirl nearing a vortex? Can it be prevented? Is it too late? What are the nodal accelerators and decelerators to this feedback situation? What insulators can break the feedback circuit or at least decelerate it? What irrelevancies powerfully energized? Can the Country-A-versus-Country-B system of rhythmized acceleration be fired in minor explosions that shift the rhythm? Can small controlled wars out of phase prevent total explosion? Can humor?

Some suggest that we wage perpetual war -- against poverty, insufficient food supply, misery. I must admit I have hoped that Country A and

Figure 2.3 U.S. Population: 2 vs. 3-Child Family



The population of the United States passed the 100-million mark in 1915 and reached 200 million in 1968. If families average two children in the future, growth rates will slow, and the population will reach 300 million in the year 2015. At the 3-child rate, the population would reach 400 million in this century and 400 million in the year 2013. (Projections assume small future reductions in mortality, and assume future immigration at present levels.)

Sources: Prior to 1900—U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1957, 1961. 1900 to 2020—U.S. Bureau of the Census Current Population Reports, Series P-25. 2021 to 2050—unpublished Census Bureau projections. Beyond 2050—extrapolation.

B might involve themselves in a space race rather than an arms race, even though the rhythm stays the same. The system can be changed by being made explicit.

Awareness of the whirlpool of rhythmic phenomenon, the opportunism of touching the pendulum just as it is turning will help the average man to think more constructively of a domestic-foreign situation. Strung out into a straight line the whirlpool is invisible. We all think in non-word time as other animals do. But, the linear thinking we need for word exchange is being programmed at our children powerfully. It will not allow survival.

The new realm has a new simplicity -- the process of living growth becomes a way of thinking. The rhythms of living process are not beyond our knowledge.



CHAPTER SIX: IF WE LEARN PROCESS WE FIND A LIVELY WAY TO AN INTER-
SPECIES WAY OF BEING

Walk intuitively off the cliff,
through the air
across the chasm
to the other side.

Having reached firm ground, then construct the bridge
or, . . . more accurately, real-ize the bridge walked across.

Unlearn. Then the next step appears out of nothingness. Even the
predicted next step exists unknown until it bears weight. Each fresh step
makes available a simple set of choices, new possibilities appear unknown
in the past.

You are process.

You are a flowing, moving, constantly changing field of energy,
of space flowing matter, of time organized in rhythms. In the process
world space, time, energy, and information are living first.

Coin your own labels but denominate explicitly.

The sense of being process in a process world is the feeling of
aliveness. Need we relegate this sense to the language of a status?
Many years have been spent seeking corpsed final truths.



Listen to breathing and feel the swelling moment of a breath span.
This is no timeless truth.

You are not soundless ever!

Listen, feel your lips pressed together or apart. . . watch your heart beats on the electrocardiogram. Count the time of listening in breath spans. Speak in rhythm. Sense the connectedness of one person to another. . . in so many ways. . . that chest rhythms. . . sometimes. . . pressed together. . . sometimes distant. . . sometimes many of us. . . give revived conviction without words. . .

Tissue and vessels are alive to each other. More work releases muscle changes which signal tiny vessels to dilate. . . bringing more blood cells which carry oxygen gulped by the mouth or dissolved in plasma. Vessels dilating release the warm touch of human odor which encourages aliveness . . . the kind of human movements when symbols seem to vanish and for a moment time seems timeless.

It is sometimes strange that process is so actively denied -- or is it?

Standing alone with one of my children, I quickly glanced at a tree and saw it as the stillness of its picture. Then I changed the time sample with which I watched. I took a long look and saw it sway and the tree came to life and its movement joined the clouds and the rustling to the rhythm of the wind. . . and I saw my child as a process and spoke to her of the tree's swaying. And she knew what I meant but we had so few words.

Dry leaves dropped down and changed my time reference to seasons, and I tried to speak of seasons and growing and found myself caught with



her questions. . .

"Why did the tree begin?"

"Who planted it?"

"Where did they get the seed?"

The tree and man himself with no beginning no ending is process.

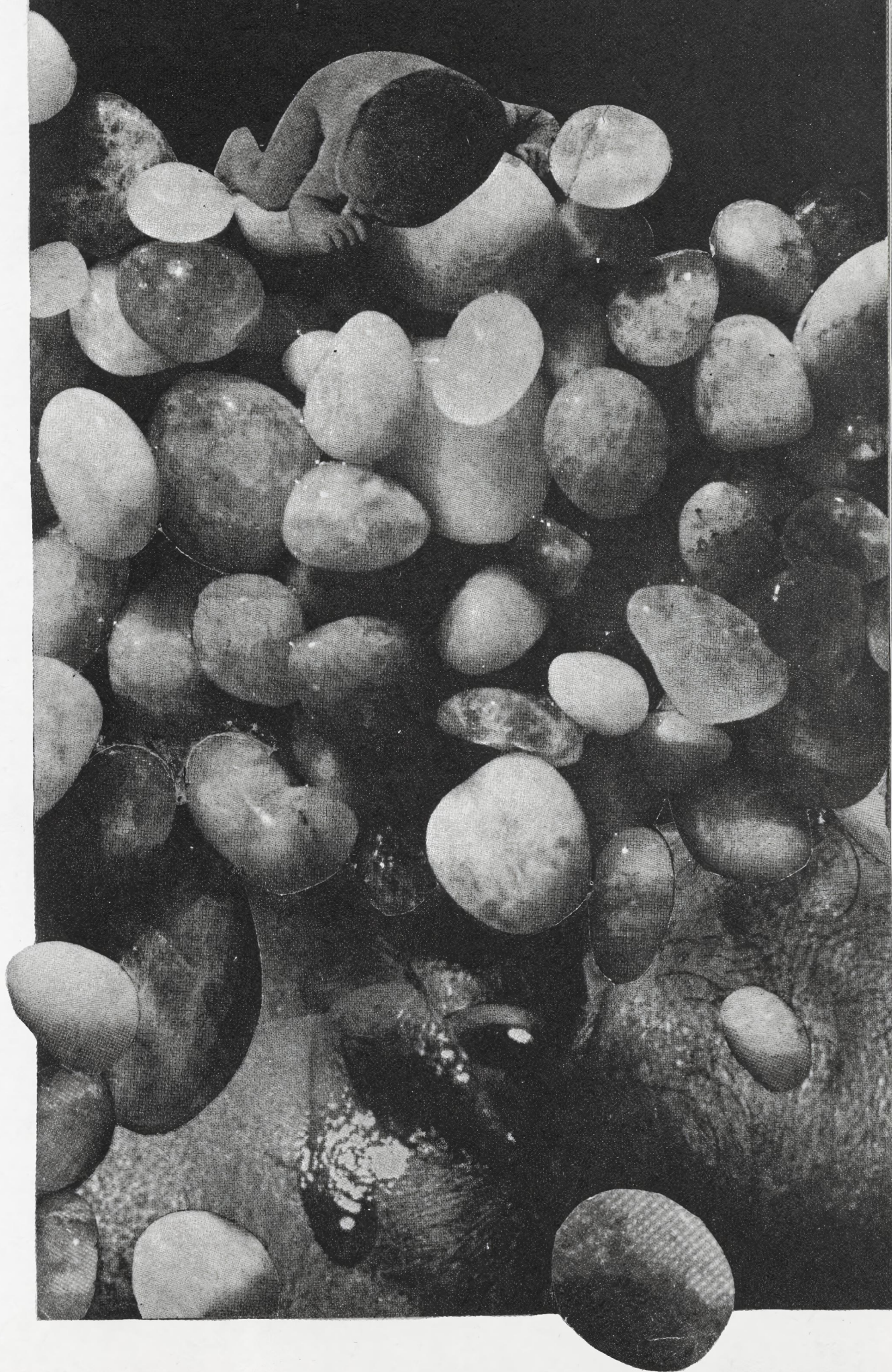
I ask myself why did I allow her to go to school?

"So what!" you respond. . .

No! Listen! What if children at school could play with living things? Approximated in a way that enrich their involvement with each other. Decisions which a plant is making by setting rootlets in a particular direction are predicted by the child who can influence the environment of that root, adding water as the root behaves to show its appetite for water. And the way the rootlet decides changes the airflow round the child's mouth -- or his lunch.

The child may participate less directly in the way of a gnarled old tree that lives in a time frame of many hundred years. Without harm, the tree and the child seek an understanding, if only to know that they live in different moments of now. The flow of sap can be sensed and related to the child's kind of blood flow which can also be sensed. Images of the flow of each are set each in terms of the other. We have no way yet of knowing the way plants denominate behavior, but then, we have not considered that plant survival requires intelligence.

The child's play may be carried on at a distance by radio telemetry. How far can plants send and receive messages? The plant or animal to be studied need not be first domesticated so that its intelligence is like

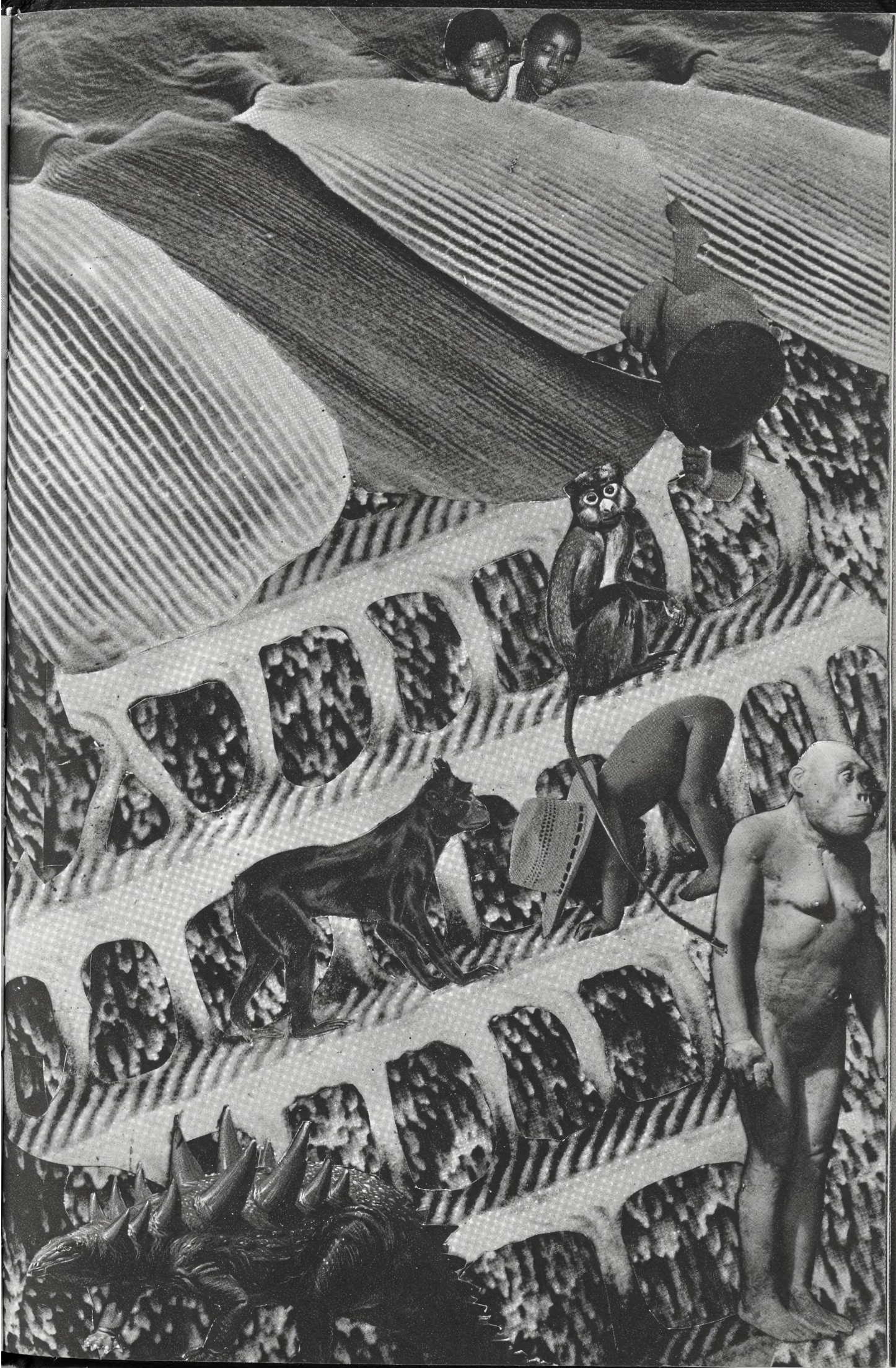


that of a child who has been bred over generations so he can be predicted.

EXERCISE: A KITTEN, A CAT, A CHILD ARE ALL REDUCED IN SIZE AND TIMING TO THE SAME RHYTHMIC RANGE. USE A VIDEO TAPE RECORDER AND MAGNIFY THE KITTEN'S IMAGE BY ZOOMING, NOW OVERLAY THE CHILD'S IMAGE ON THE KITTEN'S WHILE THEY BOTH ARE WATCHING. THE CHILD AT LEAST CAN IMITATE THE KITTEN -- AND THE CAT. THE KITTEN AND THE CAT MAY NOT WATCH THE IMAGE, BUT WILL THEY BE MORE EXPRESSIVE IN PLAYING WITH THE CHILD WHO HAS PLAYED WITHIN AN IMAGE OF THEIR PROCESS? THE KITTEN PROCESS PLAY WOULD BE PART OF KINDERGARTEN FUN. LEARNING TO SENSE ANOTHER CHILD'S RHYTHM OR A MOTHER'S AND A FATHER'S AS THEY DEVELOP CRESCENDO -- OR TO DANCE AGAINST AN IMAGE OF SOMEONE UNKNOWN, OR A NEW CREATURE -- OR THE UNFOLDING OF WILD FLOWERS, THESE PROVIDE A HIDE AND SEEK THAT NO BOOK OR PRINT CAN FIND.

Consider yourself as a signal sending, storage and receiving creature, and walking down the street catch the signals generated by these other similar systems each with an aura of heat, smell, sound which rebounds with you. You responsively pattern to each other's way of coding, even without intuition. Have you been limited by your skin? Forget the limit. It's useful only in buying shoes.

As you walk down the street, you pass another energy system. . . a house. . . a lady. . . a dog. . . a child. . . a daffodil. Each extends beyond the limits we learned from images in childrens' books. Your voice resounding down the stairs is you outside your skin. This shift in concept does not require anything more than a change in conventions. Your smell image, like the daffodils will not show in an outline print.



The sense of aliveness holds process in its stride and thereby gains intimacy with the liveliness around us.

Each species has its own kind of learning and its own kind of time. To its own species it is intelligent for it shares the code that makes its thinking common.

Does a dog spot another dog by the color of its hair?

Or by the wealth and silkiness of its fur coat?

Is this fur coat naturally worn for warmth, or does it like the brilliant colors of the parakeet tell other dogs about the story?

I am a police dog, watch out, see my badge, precinct one, . . . shape, color, and fur. Grrrrr. . . The other dog bows its head or changes path.

How much does information exchange have absolutely to do with thinking?

How much with talking?

How much with action?

Is thinking internal talking?

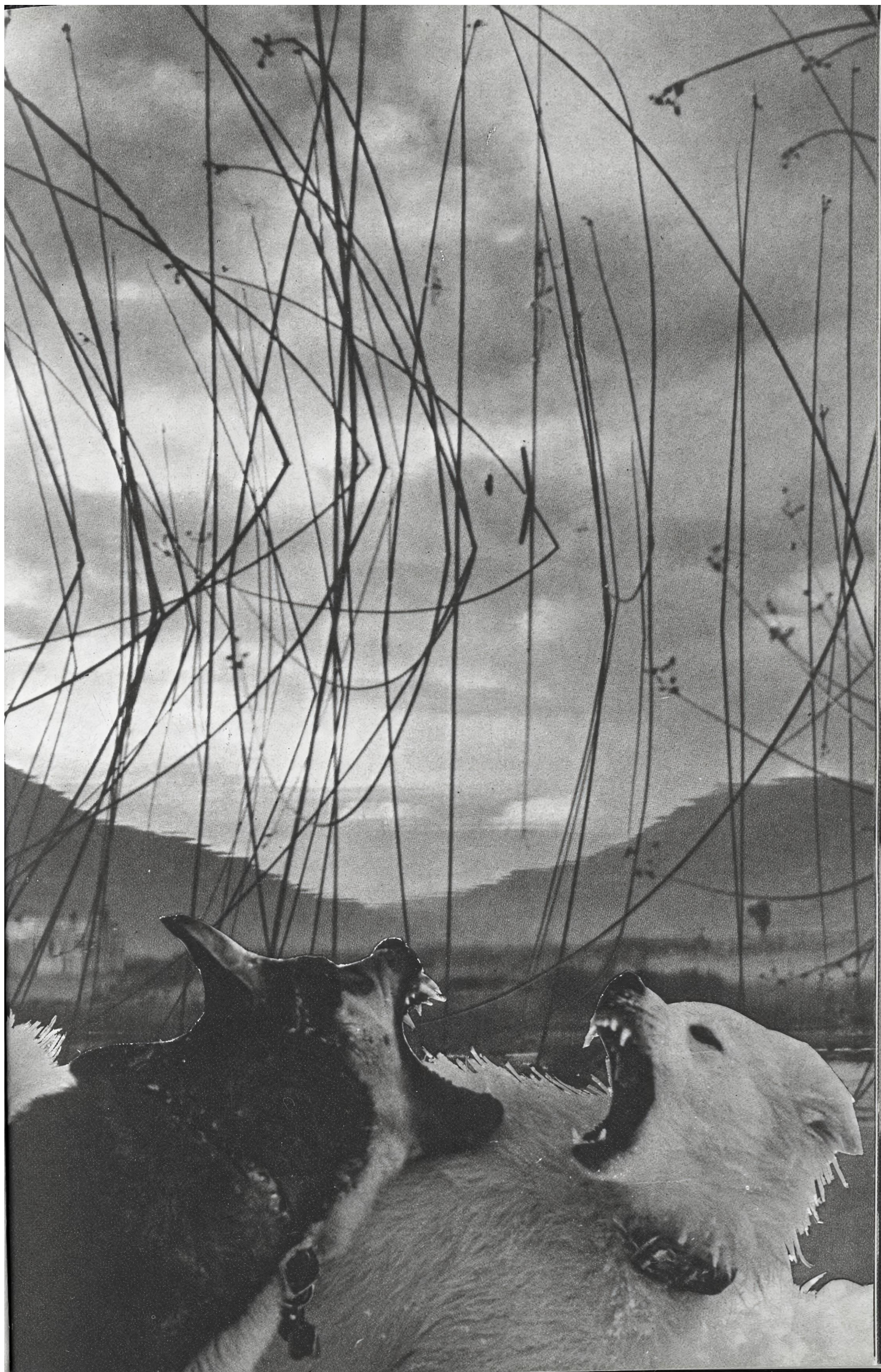
Are lions thinking when they hunt cooperatively?

How much does information exchange have only to do with being a particular species?

Does each species have its own message exchange system?

Wouldn't it be fun to be able to decipher the code of another species?

EXERCISE: TAKE YOUR CHILD ON A WALK. . . YOU FOLLOW HIM. . . THEN SLOWLY, GENTLY JOIN HIM. . . LET YOUR DAUGHTER JOIN YOUR PROCESS, SENSE. . . OPEN.



Watch the nurse in the operating room translating the surgeon's action language. They dance their communication. Speech in the operating room has its place. But most of the communication exchange is by action -- patterned movements. The surgical team has a language linguists would find precise. A dog's lifted ear communicates as does the surgeon's rap. An urgent rap, a sudden ear pointing -- a pointer's tail outstretched. A radar disc suddenly altering its scanning rhythm -- action pours down into an operating field. The hand action is translated to ear messages by another surgeon who explains the language to the medical students. The nuance is not easily translated outside the field. Is this denomination? What more is needed? Is there a way to spend explicitly what is so elegantly silent?

The fighting dance of the fighting fish or the sex dance of the courting fish or the human "twist" are all considered ritual. What do we know of our own rituals as being like that of other creatures? What would a martian think of our courting? The courting woman and man use the basic biological communication. Everyone will acknowledge this language transcends their words. It is more. It is mammalian. Word language is limited. It is less intelligent than the action language that we sniff at. Reading a play is very different than acting it. The actor can communicate to the audience a richness of content far beyond his lines. What does the actor know of his way of being different people. Can his art be transmitted in ways other than apprenticeship? Can it be denominated? Is there a language making it easier to transmit action knowledge? Why is verbalism so highly valued?

Long before verbal language, the infant and his toddler sister share intense communication. Variations in crying, the way his body



moves, or tugs at the playpen bars, says he wants to get out. She laughs. He is not the dog. His language is not dissimilar. Their puppy play is a great source of humor.

The child has a capacity to learn while in the preverbal stage of development far beyond what he is presently taught. Should we accept this limitation of our teaching? Is it a way of preventing intrusion into what works well enough? Is this a personal matter or a species wide habit? Already we acknowledge great variation in the level of developmental learning from family to family. We have not studied the variation with an aim to accelerate the learning by enhancing what has happened accidentally. Is it better that way? Some parents fear that their genius child if given all the learning he can absorb will be too unnatural. In times of rapid change the children will seem unnatural.

A teacher who leaves her mirrored looking glass which reflects her own childhood and the conventions of that time, can use action teaching which emphasizes learning of immediate value to the child. This does not breed empty symbol or fact filled automations, but (breeds) children who are skilled in the science and art of teaching themselves about what is relevant to them.

I am not speaking of training in the style of training pigeons, six grains of corn for every seven beak raps -- though pigeons have been felt to be exceedingly intelligent at beak-rapping for a graduate thesis.

Can you imagine teaching a pigeon in a wind tunnel to be more expert at flying? Can you imagine letting him teach us how to use wings in a more biological way than is our habit?



no twiddle



AN EVENING CLASS OF IMMIGRANTS.

No fiddle

The pigeons who are trained to go through a maze are learning human styles. When the graduate can swoop in the air and pick a small piece of corn from a large height, he will have decoded and found useful some of the information that even the commonest bird long ago mastered.

We have used experience with birds to build analogies which are not formal language but vernacular. "He has an eagle eye" refers to an eagle's vision much more than is usually conceived. Such expressions have a formal meaning. We have tried to describe ourselves in terms of what we experience as the lives of other creatures.

What about the teaching methods of other species? Do mother birds teach young ones to fly, or do older young birds teach the Younger? Research in education is just at its beginning.

Information exchange includes the information that signals flowers to turn to the sun,

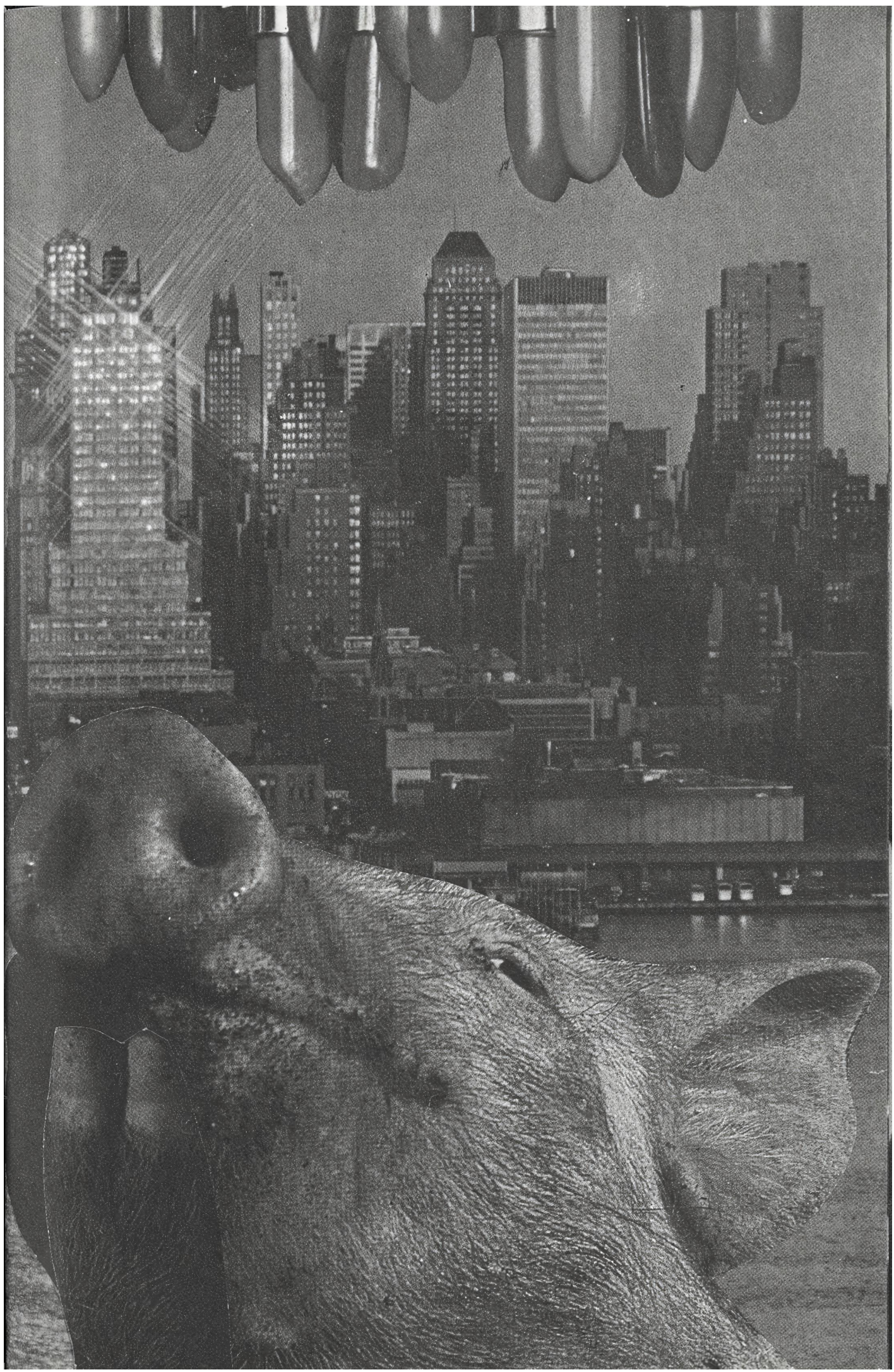
... and babies' mouths to hold their mother's breast,
... and piglets to hold to the sow,

... and sows to return to the barn
for the piglets to hold.

... And sows to turn over on top of their piglets
and kill them.

Is it just that living mouth and nipple fit?

The well-selected unusual child who, being gifted with a broader framework refuses to accept the common rules for discarding information can teach other children the patterns that he sees. Techniques devised by older children for teaching younger ones who are more like themselves than adults, need to be studied and written down.



An appreciation of the information that is available even to the fetus, the child before he is born, can be frightening. Hormones telegram instruction. An arm bending into softness pressing around a belly around an unborn child is a communication. The unexpected chop of an unborn knee transmits something.

The little boy liked to sniff the chairs in the room after a family party. Then he would tell his older brother quite accurately which family members sat where. It was a private game they played. The little boy had not been allowed to come down to the party, so he had no visual way of knowing where they sat. The brothers giggled together -- because they had this private secret.

But incense is important in the rituals which have captured our biology while selling religion. Trying to keep away from being an animal can be very expensive.

Give a man a gun and a cause and watch him crawl on all fours and pounce like any other animal. Watch him with his mate and see those animal hip on hips. Watch the pack of wolves organize a scientific meeting, each hungry for the honors yet loyal to their traditions. But our interest is not in depreciating or appreciating. Our new learning builds from a knowledge of ourselves. A child when very young is more the child of all other mammals than like his own father. Pig and people embryos look more similar than adult pigs and men.

EXERCISE: USING SUCH KNOWLEDGE AS YOU CAN MUSTER, CONSIDER AN ELEPHANT'S OR A BIRD'S VIEW OF OUR CHARACTERISTICS.



Each species has a particular view of itself and its neighbors.

. . . we are no exception.

Man's perception of himself is not more or less accurate than the elephant's perception of elephants.

Like the elephant and the bird, man's own definition of himself is limited by his own perceptive apparatus. These perceptions man abstracts into his various cultures. Each of these cultures defines a perspective. Each perspective cross-sections what he sees from this point of view.

Each culture teaches its children by example both intentionally and unintentionally a way of searching and arranging into patterns from that which exists. Each family teaches its children how to learn. This early beginning from mother to daughter and from father to son, leaves large areas of abstracted mystery.

Blind people have taught me to sense with my ears what my parents by example taught me did not exist. My ears are not special, nor are theirs. I had learned not to hear what was called useless in the days when the limiting factor was capacity to think. Now early learned and uncontrolled retardation in perceptual input limits the progression of our learning explosion. A new perceptual intimacy is needed if sensing the perceptual explosion in learning is to keep up with our fact growth. What is now considered "normal" is retarded.

Remelt the old forms to discover new basic nodal points. Use these to build language that contacts more experience. Use the new ways to construct new language. This is the learning spiral. The only way I know to



unlearn patterns considered natural to all humans is to recontext this nature with the help of other creatures. Can our love extend beyond our species to the process of Earth?

Too much explosion-like dread turns the skin cold. Ideas without body become empty. The new language is built of contact. Contact is keeping ideas close to our senses. The body is ideas. Ideas without skins, muscles, bones, bellies, buttocks and -- are tiring. Smells and wind, leaves rustling natural to the ear; our species home is among others. Can you recall the taste of a fresh picked raspberry in your mouth, on your lips? Remember it with your mouth, with your tongue licking jam.

Can you smell garlic bread now?

A fresh baked loaf with deep brown crust or a lover's soft touch?

Can you think in ideas without a sensory base?

It is not possible to leave our sensational world. A word invented labels a sensation or a sensory pattern, or patterns of patterns. This foundation is often forgotten and the loss of immediate and literal sensory meaning removes the original strength from the word.

Dictionaries are the writing down of grunt variations which in many members of the same species awaken similar sensations. A less abstract situation is one more full of sensational experience.

How rich is the word "rose" to you?

Is it rich enough to touch?

Can you smell a rose?

Try it now. . .

You don't need to hold a living rose. Recall a rose, look at it,



smell it in your memory, touch it gently with the memory in your fingertips.

Feel your neck stretch out to smell it. . .

Ah, you have a feeling -- a rosy feeling.

Is there no way to remember the existing rose? A child-hugged neck. Unfurl a fern, you will feel its spring in your fingers. Lean between two trees, the wind is there moving your back.

Does your nose have a memory?

Your neck?

Your back?

Beyond words!

Abstraction is a way of coding what you sense. It is inevitable. The word "cause" is a way of coding what you sense. It is a way of patterning sensational experiences. . .

It is one way, there are others. . .

Abstractions are ways of condensing memories of things happening. Can you taste the cherry as you hear the tooth bite through the skin? I cannot hear your tooth ping through the skin. The ping is a dense memory. Your own closed circuit of bone conduction carries the sound to your ears. Do you see a picture of a cherry? Can you remember the sound and tell me about it though you heard it and I never can hear the sound of your tooth in your ear as you hear it? We are as many species even with each other.

It is not possible to gain a perspective about the survival of our species except within the broader system which compares and contrasts and overviews man as one of many species. Must the Martians arrive before we

give up the notion of human supremacy?

Each species has its own different mode of using information just as it has different organs. Each has different pleasures and different ways of surviving. A mole is not a man in its size nor in its ways of life. Its enemies are not the same enemies, its survival does not depend upon the same information. Its eyes and ears and brain are different not just in size. Its rhythms which determine its redundancies and patterning are not the same as man's.

But...

Man is no special beast.

Except that I am a man
and because I am me, man is a
special beast.

To each species its own species
is special.

Squirrels enjoy squirrels and chase themselves and chase each other as well as nuts. And life is not confined to one species nor to fish nor to plants nor to rocks nor to any species' conventions.

When man realizes that other species have talents, rhythms, modes of communication peculiar to them, he opens up a new territory of learning. Communication with other species can help us learn to enjoy our self-indulgent supremacy without carrying this pretense to the enslavement of other lively creatures, the living sea and mountains and ourselves. What has this to do with time? Am I writing on a new topic? No! Yes! I am multiplying contexts for time process is common ground for all lively creatures.



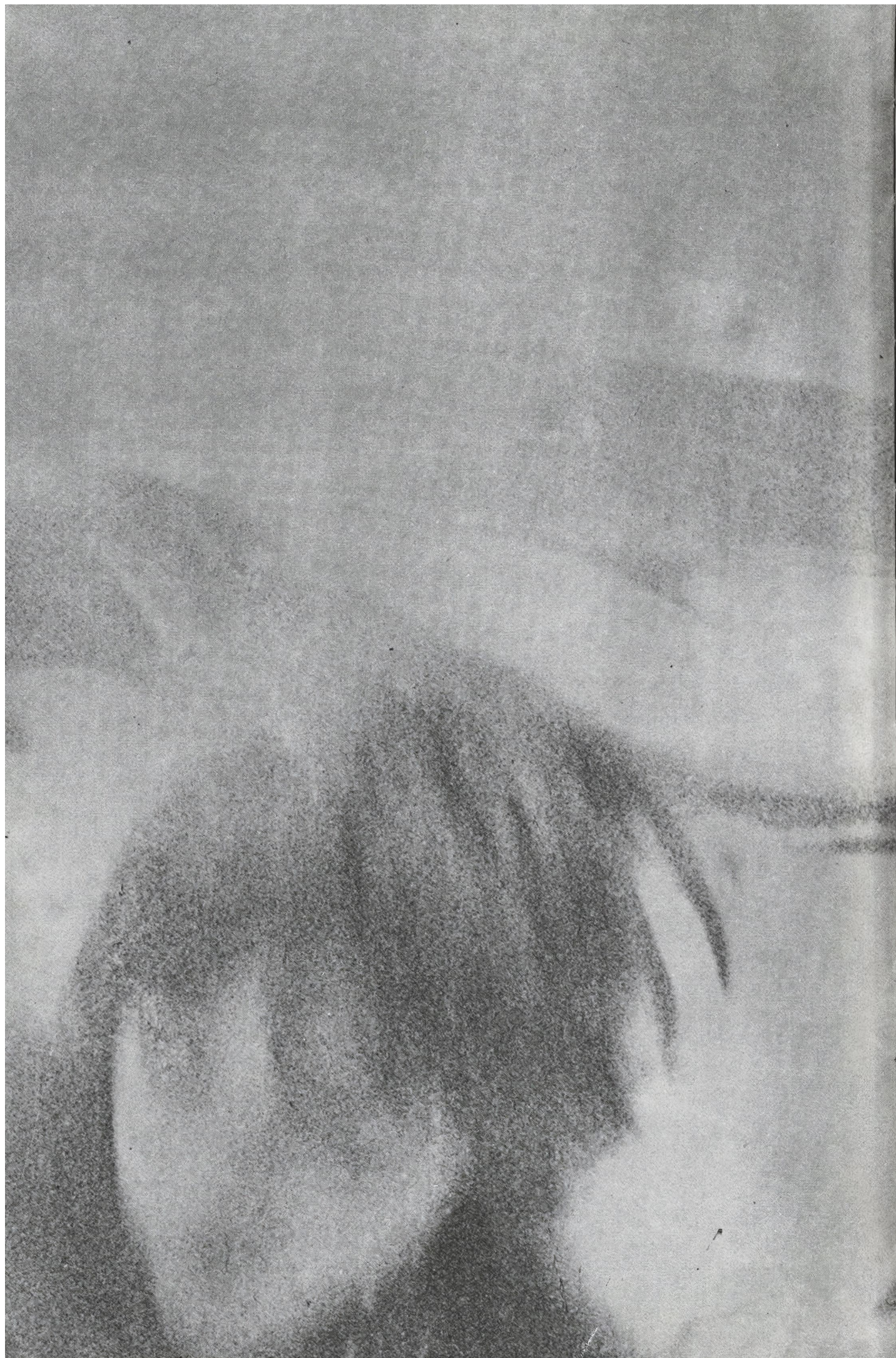
The time image of a man and a plant has more relatedness than their chemical anatomy.

How much process commonness exists between the infants of related species, where is the difference? Children would enjoy this kind of knowing that is close to their sensations.

EXERCISE: A FISH HAS BEEN REPORTED THAT USES ONLY FLUCTUATIONS IN ELECTRICAL CURRENTS AND RESISTANCE TO GAIN ITS INFORMATION. WHAT TIME CHARACTERISTICS WOULD YOU CONSIDER LIKELY TO BE ORGANIZERS OF THIS FISH'S INFORMATION SYSTEM?

1

2



ACKNOWLEDGEMENTS

The collage pages are made up of material from many sources — bits and pieces, some very beautiful, put together in a new form. It is not possible to ask permission to reproduce every element of a collage, or this medium would be unworkable. The author has tried to determine where an image has been used in simple reproduction rather than as one collage element for a new creation. The resulting credits follow. The author wishes to express appreciation for being able to build from works which are not specifically mentioned.

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